INTERNATIONAL CONFERENCE ON SCIENCE TECHNOLOGY ENGINEERING & MATHEMATICS FOR SUSTAINABLE DEVELOPMENT

(ICSTEMSD 2025 – 3rd Edition)
Theme: Smart Mobility, Technology & Sustainability

On
21st FEBRUARY, 2025

CONFERENCE PROCEEDINGS

ORGANIZED BY

ATHARVA
COLLEGE OF ENGINEERING

AET'S
ATHARVA COLLEGE OF ENGINEERING MUMBAI

ATHARVA EDUCATIONAL COMPLEX, MALAD MARVE ROAD, CHARKOP NAKA, MALAD (WEST),
MUMBAI-400095 TEL.: 91-022-40294949

www.icstemsd.in   www.atharvacoe.ac.in

This is the proceedings of the **International Conference on Science, Technology, Engineering & Mathematics for Sustainable Development (ICSTEMSD 2025)**, which was sponsored by Atharva College of Engineering, Malad, Mumbai and held on 21st February 2025.

Instruction to authors:
For a paper to be considered for publication it is a pre-condition that it is not submitted for publication elsewhere, contains results that are new and significant, and of interest to a wide section of the engineering and science community. Editors may invite papers on special topics of current interest.

ABOUT THE COLLEGE

An ever increasing demand for Technical Education in Maharashtra as a whole and in Mumbai in particular, has created fierce competition. As a result, many meritorious students are deprived of the opportunity of taking engineering education. A large number of students are required to migrate from Mumbai to some other University. This results not only in extra expenditure for the parents but also leads to depression amongst the students. After careful observations, through Survey of different institutions 'The Atharva Educational Trust' has decided to come forward for the noble cause of technical Education and open the new Technical institution which will impart technical education in High – Tech areas like Computers, Information Technology and Electronics & Telecommunication, Electronics Engineering.

'The Atharva Educational Trust' believes in producing well disciplined, practical oriented, highly knowledgeable Engineers to serve not only for themselves but for the society and nation. To make this dream come true the Trust has developed the infrastructure first and proved their merit in getting recognition from Govt, of Maharashtra & A.I.C.T.E. New Delhi, the body for promoting technical education of high quality in India established by Govt, of India.

The Atharva Educational Trust owns spacious campus in Malad, where an ideal educational 'Atharva College of Engineering' campus has grown in leaps and bound in short span of time. The Institute has started functioning from the academic year 1999-2000 & has achieved good results in the University of Mumbai since then. The institution has developed laboratories with sophisticated equipment. Learned, disciplined and qualified staff is going to be another attraction for the students in this institution.

- Atharva was established in the year 1999 for the noble cause of Engineering education in western suburbs.
- Presently caters to the need of 800+ students in various branches.

- ISO 9001:2015,21001:2018,14001:2015 Certified Institute.

- ISO approved by American Quality Assessors (India) Private Limited & Accredited By ANAB.

AET's Educational Complex is set up on a gigantic and spacious campus of 6 acres situated in the heart of Western suburbs at Malad with convenient access by bus / train. With classic architecture & interiors, beautiful green landscaping and ambience, state-of-the art infrastructure and other sophisticated equipment, AET Complex is the perfect setting of a professional environment with a friendly touch to the scene.

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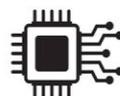
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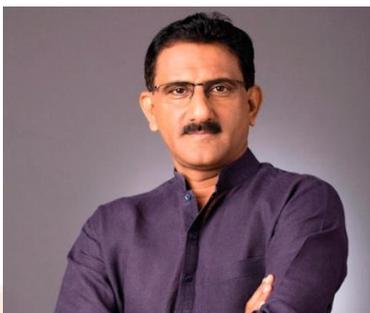Assistant Professor, PDEU
University, Gujrat

Dr. Jayshree Jaiswal
Nirma University , Ahmedabad

Message from Executive President Atharva Group of Institutes

Hon. Shri Sunil Rane
Patron

Atharva Group of Institutes takes pride in being a prominent "Centre of Excellence" in Engineering, Management, Film Studies, and Hotel Management, dedicated to advancing through Research, Technology, and Innovation. We believe that technology can be the catalyst that propels the educational world to new heights, enabling us to reach farther and faster than ever before. Atharva College of Engineering is committed to offering comprehensive technological education within a conducive learning environment, fostering the development of technocrat leaders who will thrive in the competitive global landscape.

In our pursuit of excellence, we organize both national and international conferences to keep abreast of the latest technological advancements. With this vision, we are pleased to announce the International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development (ICSTEMSD-2025), to be held on 21st February 2025 at Atharva College of Engineering, Malad, Mumbai. The conference aims to encourage meaningful discussions, the exchange of ideas, and the collaboration of STEM with sustainable development initiatives.

ICSTEMSD-2025 will serve as a platform to showcase cutting-edge theories in sustainable STEM, providing opportunities for research, technology application, and entrepreneurial innovation. This conference will bring together thought leaders and pioneers from diverse fields, fostering knowledge sharing and facilitating the exploration of new pathways for technological advancement and methodological breakthroughs.

I extend a warm welcome to all technocrats, researchers, and academicians, and commend them for their invaluable contributions to research and technology. I also congratulate the organizing committee and wish them all the best for the success of this landmark event.

Hon. Shri Sunil Rane
Executive President
Atharva Group of Institutes
Malad, Mumbai

ATHARVA
COLLEGE OF ENGINEERING

Message from Director's Desk

Dr. P. N. Nemade
Conference Chair

I am delighted to extend a warm invitation to all to participate in the 3rd Edition of the International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development (ICSTEMSD 2025). The conference will be hosted at Atharva College of Engineering (ACE), Malad, Mumbai, starting from 21st February 2025.

ACE's campus is a hub of knowledge, innovation, and cutting-edge technology. This conference aims to bring together researchers, professionals, practitioners, educators, and students to exchange ideas, share experiences, and discuss challenges, developments, and future prospects in the fields of Engineering, Science, and Technology.

ICSTEMSD 2025 offers a unique platform for the exchange of innovative ideas and technical expertise. The conference will feature keynote speeches by eminent academics, as well as research paper and poster presentations by scholars. We are excited to welcome all participants to engage in meaningful discussions and collaborations.

This event will also provide ample opportunities for networking and connecting with a diverse community of professionals. I would like to express my heartfelt gratitude to the Conference Committee members, students, and all our colleagues for their dedication and hard work in ensuring a stimulating and enriching experience for everyone. I wish ICSTEMSD 2025 great success and look forward to seeing you all there!

Dr. P. N. Nemade
Director
Atharva College of Engineering
Malad, Mumbai

Message from Principal's Desk

Dr. Ramesh Kulkarni

I, Dr. Ramesh Kulkarni, am honored to extend an invitation to all to participate in the "International Conference on Science, Technology, Engineering & Mathematics for Sustainable Development (ICSTEMSD 2025)" as the Conference Chair. This event aims to bring together global researchers, scientists, and industry leaders to address the advancements and challenges in the field of digital transformation.

On behalf of the entire ICSTEMSD 2025 team, I warmly welcome all delegates. I am deeply grateful for the invaluable support and collaboration from the authors, sponsors, and keynote speakers. The central theme of the conference is sustainable development within the realms of science, technology, and mathematics. As technological advancements continue to reshape our lives and contribute to solving many societal challenges, we are fortunate to have expert presenters who will share their knowledge and provide solutions to pressing issues.

I am confident that leveraging STEM to drive sustainable development will help balance the world's social, economic, and environmental needs. My heartfelt thanks go to the organizing committee for their tireless efforts in making this conference a reality. I trust that all participants will have an enriching and productive experience. I also encourage active participation from women scholars, in alignment with the Government of India's goal to empower women in academia and beyond.

In conclusion, I extend my sincere appreciation to the conference organizers, faculty members, student representatives, and all attendees for their dedication in planning and executing this important event. I look forward to the continued success of ICSTEMSD 2025.

Dr. Ramesh Kulkarni
Principal
Atharva College of Engineering
Malad, Mumbai

Dr. B. E. Narkhede

It is my great privilege to welcome you to the International Conference on Science, Technology, Engineering, and Mathematics (STEM) for Sustainable Development. I am honored to witness the gathering of brilliant minds from across the globe, united in their pursuit of innovative solutions for a sustainable future.

This conference provides an invaluable platform to bridge the gap between research, industry, and policy, fostering collaborations that transcend traditional boundaries. The collective expertise assembled here is set to drive transformative advancements in STEM, addressing the urgent challenges of our time.

I hope the knowledge shared throughout these sessions will inspire and guide us all on our collective journey towards sustainable development. My heartfelt gratitude goes to the organizers and participants for their unwavering commitment to advancing the frontiers of STEM for a brighter and more sustainable tomorrow.

I wish you all a fruitful and enriching conference experience.

Dr. B. E. Narkhede
Associate Professor,
NITIE, Mumbai

Dr. Yashwant. V. Joshi

    I would like to extend my heartfelt congratulations to you and your team for organizing the "International Conference on Science, Technology, Engineering & Mathematics for Sustainable Development" at Atharva College of Engineering on the 15th and 16th of February. This conference presents a wonderful opportunity to discuss current issues and technological advancements in STEM.

    I wish you and the entire team all the very best for the successful execution of this event.

Dr. Yashwant. V. Joshi
Professor,
Ex-Director, SGGS, NANDED

Dr T. S. Rathore

Dear Members of the ICSTEMSD Organizing Committee,

It gives me immense pleasure to express my feelings for the **International Conference on Science, Technology, Engineering & Maths. for Sustainable Development** on the theme '**Smart Mobile, Technology and Sustainability**' to be organized by Atharva College of Engineering, Malad on February 21, 2025.

Atharva College is one of the prominent engineering colleges in Mumbai with a vision to excel in technical education. Keeping in mind the fast-changing scenario of technological developments at global level, it is providing state-of-the-art infrastructure, right academic ambience and conducive environment for developing professional skills coupled with managerial growth, entrepreneurial and leadership skills to students which will make them competent professionals to face globally.

Atharva College maintains stringent quality standards in all aspects of teaching-learning activities and overall development of the students and staff. As one step ahead, this conference is an attempt to consolidate the effort in the direction of innovation and futuristic research. Like earlier two international conferences, this time also, I am sure you will receive stupendous response from all corners of India and abroad due to the continuous efforts, extensive work, and commitment and dedication of the organizing committee members and reviewers.

I am sure that Atharva College will provide the best ambience, finest hospitality and state-of-the-art infrastructure of international standards during the conference.

I extend my best wishes for the success of ICSTEMSD 2025. I congratulate all the members of the organizing committee for taking untiring effort in organizing the conference, specially, Hon. Shri Sunil Rane (Executive president, Atharva Group of Institutes); Dr P N Nemade, Director; Dr. R K Kulkarni, Principal; Dr Kavita Bani (HoD of ECS Department),Chair and Ms Kshipra Pandey (Electrical Department), Co-chair.

Dr T. S. Rathore
Professor, School of Electrical Science,
IIT, GOA

Mr. Amit Padhy

    As an advisor for this esteemed International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development, I would like to express my deep gratitude for the opportunity to be part of such a meaningful and impactful event. It is truly an honor to join a gathering of experts and leaders who are dedicated to making a positive difference for our planet.

    Sustainable development is a critical issue that touches us all, and the collective knowledge and expertise shared here will be instrumental in shaping a better future for generations to come. The discussions and presentations over the course of the conference will span a wide array of topics, offering valuable insights and inspiration for each of us to carry back to our respective communities.

    As an advisor, I am proud to be part of the organizing committee that has worked tirelessly to bring this conference to fruition. I eagerly look forward to the innovative ideas, thoughtful discussions, and solutions that will be shared during the event.

<div align="right">

Mr. Amit Padhy
Founder, AVP Robotics
Mumbai

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Dr. Deepak Waikar

Sustainable development can be significantly accelerated through Science, Technology, Engineering, and Mathematics (STEM) education, both locally and globally. By incorporating ART—Science, Technology, Engineering, Art, and Mathematics—into STEM, we create STEAM education, which not only enhances the technical aspects but also nurtures creativity, innovation, and holistic thinking. The infusion of ART strengthens the creative and innovative dimensions, helping us address complex global challenges like the Climate Crisis, which continues to impact every aspect of life on Earth.

The role of new and renewable energy, clean technologies, and automation in sustainable development cannot be overstated. Innovations such as robotics, analytics, artificial intelligence, AR/VR/MR, Digital Twins, IoT, smart sensors, and smart devices are all vital contributors to advancing sustainability. In this context, the International Conference on Science, Technology, Engineering & Mathematics for Sustainable Development (ICSTEMSD 2025), organized by Atharva College of Engineering in Malad, Mumbai, India, comes at a critical time to explore these issues and solutions.

I extend my heartfelt congratulations to the organizing team of ICSTEMSD 2025 and wish the conference great success in advancing the conversation on sustainable development through STEM and STEAM education.

Dr. Deepak Waikar
Chair, IEEE Education Society Chapter
Singapore

Dr. Kavita Sonawane

The International Conference on Innovative and Advanced Technologies in Engineering serves as an excellent platform for discussing engineering, science, and technology-related topics. It is truly exciting to learn that the "International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development" will be held at Atharva College of Engineering. This conference promises to inspire faculty members to engage in research and idea exchange, while students will gain valuable insights into the future trends of engineering.

In closing, I would like to extend my best wishes for the success of the conference. I also want to express my sincere gratitude to the organizing team and all attendees for their dedication and efforts in making this event possible.

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Dr. Kavita Sonawane
HOD & Professor, CMPN
St. Francis Institute of Technology
Mumbai

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Mr. Sharang Ambedkar

It gives me immense pleasure to invite you all to the International Conference on Science, Technology, Engineering & Mathematics for Sustainable Development (ICSTEMSD 2025), an event that promises to be both transformational and pivotal.

As the Managing Director of FeelGood EcoNurture LLP, I am excited about the opportunity this global gathering presents—bringing together visionaries, industry leaders, and experts from diverse fields. The ICSTEMSD 2025 is scheduled to take place on the 21st of February 2025 at Atharva College of Engineering.

This conference serves as an invaluable platform for exchanging knowledge, ideas, and experiences, with a particular focus on the intersection of Science, Technology, Engineering, and Mathematics for Sustainable Development. Your insights and expertise would greatly enhance the richness and diversity of the discussions.

Your participation in ICSTEMSD 2025 will undoubtedly elevate the event's prestige and offer a unique opportunity to showcase your contributions to advancing STEM for sustainable development. We eagerly look forward to the honor of your presence and the collaborative opportunity to shape the future at ICSTEMSD 2025.

Mr. Sharang Ambedkar
Managing Director
FeelGood EcoNurture LLP
Mumbai

Dr. Rajesh Bhutkar

I am delighted to learn that Atharva College of Engineering, Mumbai, has organized the ICSTEMSD-2025 conference. In today's rapidly advancing technological landscape, we witness new developments emerging every day. Technology is evolving at an extraordinary pace, opening up new avenues for research and innovation. I am confident that this conference will inspire participants with innovative ideas and encourage discussions on groundbreaking inventions and technologies in the engineering sector.

I extend my best wishes for the success of ICSTEMSD-2025 and commend the organizers for their efforts in bringing this important event to fruition.

<div align="right">

Dr. Rajesh Bhutkar
Head, Mechanical Engineering,
SPEC, Mumbai

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Dr. Sidharth Joshi

As we gather for the distinguished ICSTEMSD 2025 conference, let us unite in embracing the transformative power of collaboration and innovation to achieve sustainable goals for Mother Earth. Our diverse perspectives come together to form a vibrant tapestry of knowledge, transcending borders and creating connections that will shape the future. May our discussions serve as a catalyst for actionable insights, fostering a global community dedicated to addressing shared challenges and navigating the shifts in our world.

Let this gathering be a crucible for ideas, where creativity thrives and solutions take shape. Let us recognize the profound impact our collective intelligence can have on building a more sustainable, inclusive, and equitable world. Seize the opportunity to network and learn, as these interactions will extend beyond the conference, cultivating lasting partnerships. Together, we accept the challenge of steering the world toward sustainability.

In the spirit of unity, let our conversations reflect inclusivity, diversity, and mutual understanding. Together, let us chart a course toward a future marked by shared prosperity, progress, and global solidarity. The bonds we forge here will endure, amplifying the strength of our collective commitment to a brighter and more harmonious tomorrow. As the saying goes, "Alone we can do so little; together we can do so much."

Dr. Siddharth Joshi
Assistant Professor
PDEU University, Gujrat

Dr. Manjul Tripathi

The conference offers an excellent platform for global experts to explore and discuss novel approaches to science and technology within a dynamic and ever-evolving environment. Modern technology is advancing at an unprecedented pace, with new developments emerging every day, and sometimes even every second. We hope that the outcomes of this conference will significantly broaden our understanding of these frontier scientific areas. The world is being reshaped by innovative technologies in today's fast-paced landscape.

I congratulate the institute for this remarkable initiative and extend my best wishes to the conference organizers for a successful and impactful event.

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Dr. Manjul Tripathi
Research Associate
IIT, Delhi

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Dr. Jayshree Jaiswal

The conference provides an outstanding platform for global experts to explore and discuss innovative approaches in science and technology within a dynamic and rapidly evolving environment. Modern technology is advancing at an unprecedented pace, with groundbreaking developments emerging every day. We hope the insights gained from this conference will significantly enhance our understanding of these frontier scientific domains.

In today's fast-changing world, technological advancements are reshaping industries and societies alike. I commend the institute for this commendable initiative and extend my best wishes to the conference organizers for a successful and impactful event.

Dr. Jayshree Jaiswal
Nirma University, Ahmedabad

Dr. Kavita Bani

It gives me great pleasure to extend a warm welcome to everyone attending the 2025 International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development (ICSTEMSD-2025) at Atharva College of Engineering, Mumbai.

The accumulation and advancement of human knowledge is a testament to the wonders of the human mind. ICSTEMSD-2025 provides a unique opportunity for all attendees to gain valuable insights from the shared wealth of scientific information. I sincerely hope that the friendships and collaborations formed during this event will endure and flourish for years to come. Furthermore, may the professional discussions among researchers, scientists, engineers, students, and educators continue well beyond this conference, further advancing the shared goals of sustainable development.

Dr. Kavita Bani
HOD, Assistant Professor
Electronics & Computer Science Department
Atharva College of Engineering
Malad, Mumbai

Mrs. Kshipra Pandey

The celebration of the International Conference on Science, Technology, Engineering, and Mathematics for Sustainable Development (ICSTEMSD-2025) at Atharva College of Engineering, Mumbai, is truly promising as it brings together professionals from diverse educational sectors. What makes it even more encouraging is the collaboration between academia and industry, with the inclusion of students in the symposium. This unique interaction allows the academic community to engage closely with students who, in the near future, will become highly skilled professionals working in technical organizations both in India and abroad. On the other hand, industry researchers can showcase their latest advancements in translating research into viable products. We are fortunate to be part of this technological revolution.

This conference offers a great opportunity for networking and collaboration with new industry participants. Academicians can not only share their knowledge with peers but also collaborate with businesses and companies, fostering a fruitful exchange of ideas. For both pre-graduate and graduate students, this is an invaluable chance to engage directly with the future of technology. Such opportunities help students make informed decisions about their future career paths.

We should view ICSTEMSD-2025 as an excellent opportunity to present our latest research, build collaborations between academic and industry researchers, assess the current state of technology, and inspire the younger generation to surpass us in this field. I hope you have a productive and enriching experience at this conference.

Mrs. Kshipra Pandey
Assistant Professor
Atharva College of Engineering
Malad, Mumbai

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VP Academic

Dr. Jyoti Mali
VP Admin & HR

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HOD (EXTC Dept.)

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Assistant Professor
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(INFT Dept.)

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Assistant Professor
(EXTC Dept.)

International Conference on Science Technology Engineering & Mathematics for Sustainable Development

ICSTEMSD-2025

Conference Theme

The *Smart Mobility, Technology, and Sustainability* Conference will bring together experts and innovators to explore how emerging technologies can transform transportation while promoting sustainability. Focused on solutions like electric vehicles (EVs), autonomous vehicles, and smart city transportation systems, the event will highlight the role of technology in reducing carbon footprints and improving urban mobility.

Discussions will cover the integration of smart technologies like AI, IoT, and data analytics to create more efficient, eco-friendly transport systems. The conference will also address important issues such as reducing traffic congestion, enhancing air quality, and optimizing energy use. Ethical considerations, data privacy, and inclusivity will also be key topics, ensuring these innovations benefit everyone.

This event will offer valuable insights and strategies for integrating smart mobility with sustainability goals. Participants will leave inspired, ready to drive positive change in creating greener, smarter cities and transportation systems for the future.

Tracks (but not limited to)

Track 1:   Science, Technology, and Society

Track 2: Advances in Power and Energy Systems

Track 3:   Innovations in Communication and Signal Processing

Track 4: Trends in Computing and Artificial Intelligence

Track 5:   Data and Digital Transformation

Track 6:   Embedded Electronics and Computing Systems

SCHEDULE 21st February-2025

TIME	SCHEDULE	VENUE
08:00 AM Onwards	**Registration**	Phase-III Ground Floor
08:00 AM - 08:45 AM	*Breakfast*	Phase- III First Floor
	INAUGURATION	
09:00 AM - 09:10 AM	**Welcome & Lighting of Lamp**	Phase-III 4th Floor Seminar Hall
09:10 AM - 09:20 AM	**Address by Patron** **Hon. Shri Sunil Rane Sir** Executive President, Atharva Group of Institutes	
09:20 AM - 09:30 AM	**Welcome Address** **Dr. P. N. Nemade** Director, ACE	
09:30 AM - 09:40 AM	**Opening Remark by:** **Dr. Kavita Bani** Conference Organizing Chair- HoD ECS	
09:40 AM - 10:00 AM	**Address by Guest of Honor** **Dr Pratapsingh Kakasaheb Desai** President ISTE, New Delhi	
10:00 AM - 10:30 AM	**Address by** **Dr. Nayan Bheda** Founder Hashtech Ventures,Mumbai (Keynote Speaker 1)	
10:30 AM - 10:40 AM	**Address by Principal, ACE** **Dr. Ramesh Kulkarni**	
10:40 AM - 10:50 PM	**Vote of Thanks** **Prof. Kshipra Pandey**	
11:00 AM – 11:10 PM	**Inauguration of Poster Presentation by Guests**	Phase-I, 2nd Floor, Library
11:10 PM - 01:00 PM	**Parallel Session of Paper/Poster Presentation**	Phase-I
01:00 PM - 02:00 PM	*Lunch*	Phase-III First Floor

VALEDICTORY		
02:00 PM – 02:10 PM	**Welcome** **Address by Anchors**	Phase-III 4th Floor, Seminar Hall
02:10 PM – 02:40 PM	**Address by** **Dr Suresh A. Shan** Hon. Chairman, CSI Mumbai Advisory AICTE Consultant MMFSL (Keynote Speaker 2)	
02:40 PM – 03:00 PM	**Rapporteur Report** **Dr Suvarna Pansambal** HoD Computer Dept.	
03:00 PM – 03:10 PM	**Views of Participants Speaker**	
03:10 PM – 03:20 PM	**Concluding Remarks** **Dr. Ramesh Kulkarni** Principal, ACE	
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187	300	Om Ajay Gadekar, Pooja Balwant Jadhav, Atharv Ajay Gholap , Diksha Hurkat , Anuradha Kapoor, Snehal Kale, *"Chaiology: MERN Based Voice Ordering and AI Reserved System"*

ABSTRACTS

Sr. No.	Paper ID	Title
1	6	Rajendra Mohite, Shekhar Mane, Jeyavel J, Zunzarrao Thorat, Amina Kotwal ***Silicon Nitride - Barium Fluoride based VOA suitable for C-band and L-band wavelength***

Abstract —The domain of Photonic integrated circuits based on silicon is a fairly new one, having the aim of designing and manufacturing myriad silicon based optical devices. . A number of factors which includes the availability of a well-established fabrication infrastructure and the fairly high abundance and low cost of the Silicon substrate, this particular strategy seems to be extremely appealing [1]. Variable optical attenuators (VOA) have become an indispensable device in the field of optical networking, which are used in simulation of optical links during verification of link power budgeting and tests such as white-box testing and black-box testing, reducing the output signal intensity from laser diodes in wavelength division multiplexing (WDM). Depending on specific wavelengths, optical amplifiers are used for adjusting the magnitude of incoming WDM signal. We present a variable optical attenuator having low power depending on the configuration of a silicon nitride - Barium Fluoride (Si_3N_4 -BaF_2) S-bend waveguides. For the development of a VOA the characteristics of the thermo-optic coefficient of BaF_2 and Si_3N_4 materials are discussed. Based on the VOA working principle, a mathematical model was designed. The results of simulation are validated with theoretical results. An optical signal attenuation factor of up to 20 dB with a minimum value of 5 dB insertion loss has been achieved for a 10 μm length component which will be compatible with C band and L band range applications.

Sr. No.	Paper ID	Title
2	11	S. A. Mithbavkar, M. S. Shah ***Survey of Electromyogram based Emotion Recognition***

Abstract—Emotions have a strong influence on our daily life. Video and image processing can be used to detect emotions but light and camera alignment restrict its performance. Electromyogram (EMG) based emotion recognition can overcome this problem. EMG signals are acquired either in ceasing or in unceasing expression form. This paper provides detailed research on both these methods' strengths and challenges. This paper gives a critical investigation of EMG based emotion recognition concerning the number of participants, number of EMG channels, and emotions.

Sr. No.	Paper ID	Title
3	14	Nitixa Maheshbhai Bhandari, Manimala Mahato, Atul Kachare

		Fruit Quality Monitoring Using Image Based Freshness Detection

Abstract— The demand for high-quality and fresh fruits has increased significantly in recent years, driven by consumer preferences for nutritious and visually appealing produce. However, ensuring the freshness and quality of fruits remains a challenge for producers, distributors, and retailers due to the subjective nature of visual inspection and the rapid deterioration of perishable goods. In response to this challenge,this project proposes a novel approach for fruit freshness detection using image processing techniques. The essential target of this project is to create a computer vision system capable of accurately assessing the freshness of fruits based on visual cues captured in images. The proposed system leverages state-of-the art image processing algorithms, including feature extraction, segmentation, and classification, to analyze key attributes such as color, texture, and surface defects indicative of freshness of freshness or spoilage.

Sr. No.	Paper ID	Title
4	20	Sushma Rathi, Gayatri Hegde *Enhancing supreme Court Opinion Analysis using Bipartite Graphs and Natural Language Processing*

Abstract–This paper proposes an enhanced approach to natural language processing (NLP) by integrating bipartite graph analysis to improve the analysis of legal documents, specifically Supreme Court opinions. We explore various NLP methods, including named entity recognition (NER), sentiment analysis, and topic modeling, and augment these techniques with bipartite graph analysis to model the relationships between entities (e.g., judges, parties, legal concepts) and the opinions. The combined approach aims to provide a more comprehensive understanding of the decision-making process and improve the accuracy of predictive models. This paper outlines the methodology and proposed experiments to validate the effectiveness of this integrated method in legal document analysis.

Sr. No.	Paper ID	Title
5	22	Varsha Vivek Kulkarni, Mahek Singh, Sharmeen Gardi, Vedika Chavan, Prof. Rakhi Akhare *Future Finder: Market Analysis Tool for Economic Opportunities*

Abstract-Navigating dynamic job markets and educational opportunities is challenging due to fragmented and generic guidance. This project proposes a machine learning-based platform to deliver personalized recommendations for education and career pathways. By integrating diverse datasets—employment trends, regional economic conditions, skill demand forecasts, and educational resources—the platform provides tailored insights aligned with user-specific goals and preferences. Key features include predictive analytics for future trends, real-time updates on industry changes, and a free, accessible interface for wide adoption. This tool aims to empower individuals with data-driven, actionable insights to make informed, future-ready decisions in their educational and career journeys.

Sr. No.	Paper ID	Title

6	23	Bemila Jenet Theres, Krupa Vinod Gajra, Harsh Jain, Yash Jain, Umang Jain *Cyber Incident Response Portal*

Abstract- The Cyber Incident Response Portal (CIRP) was created to help victims of cybercrimes record events and monitor complaints. It offers a user-friendly interface that makes it simple to register complaints, get real-time assistance, and access materials for cyber awareness. By creating distinct tracking IDs, the portal facilitates easy monitoring and communication between administrators and users. By using cutting-edge data analytics, CIRP simplifies the handling of complaints and assists in spotting patterns in cybercrime, which guides preventative actions to improve community cybersecurity. In the end, CIRP is an essential tool for victims, guaranteeing prompt support while negotiating the challenges of reporting cybercrimes.

Sr. No.	Paper ID	Title
7	24	Bhavika Shirish Joshi, Komal Champanerkar *Credit Card Fraud Detection Using Machine Learning*

Abstract —With credit card transactions increasing in popularity, so has the number of cases of fraud, hence the need for new ways of detection and prevention. This study is concerned with the application of specific machine learning techniques such as autoencoder and gaussian methods to increase the performance of credit card fraud detection systems. Its purpose is to expand the scope of what is already known in this area by means of algorithms that employ sophisticated calculations in recognizing irregularities in transaction data. Such knowledge is useful and directs focus towards those residents of areas where fraud occurrences have become a nightmare. It is the understanding of the inadequacies of such detection measure and what is required that assists in the determination of the amount of time one should wait before changes are made to the detection measure. Thus, this research not only highlights the appropriate application of machine learning in the protection of transactions, but also demonstrates the necessity of improvement of qualitative methods to counterbalance the growth of credit card fraud cases. As electronic transactions become more common, the complexity of fraudulent activities has grown, resulting in considerable financial losses for cardholders and their banks. Credit card issuing companies are actively searching for the best methods and technologies to reduce and detect instances of credit card fraud. This ongoing struggle against fraud has led to the investigation of various machine learning and deep learning techniques to improve detection capabilities and reduce risks.

Sr. No.	Paper ID	Title
8	25	Fabiya Suhail Chhapra, Nupur Lalit Vartak, Ichhanshu Jaiswal *Automated detection of Attention Deficit Hyperactivity Disorder using (EEG) and Hybrid Deep Learning Model (CNN & LSTM)*

Abstract — Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder in children, often persisting into adulthood, characterized by inattention, hyperactivity, and impulsivity. Diagnosis typically relies on subjective assessments, risking misdiagnosis or delays. EEG, reflecting brain activity, offers objective support for ADHD detection.

This study introduces a novel feature extraction method that evaluates dynamic connectivity tensors among EEG channels, preserving temporal and spatial structures while reducing dimensions. These features are processed by a hybrid neural network combining CNNs and LSTMs to capture spatial electrode dependencies and temporal EEG patterns.

Using an EEG dataset of 800 recordings (30 seconds each) from 61 children with ADHD and 60 controls (ages 7–12), recorded via a 19-channel 10–20 system at 128 Hz during a visual attention task, our method achieved 73% accuracy. This demonstrates its promise as a reliable, non-invasive tool for ADHD diagnosis, advancing EEG-based deep learning in clinical applications.

Sr. No.	Paper ID	Title
9	26	Sahil Shashikant Salunke, Leena Raut , Ichhanshu Jaiswal , Soham Shivpuje *Diabetes Prediction*

Abstract — Every year, lakhs of new cases of diabetes are observed worldwide, making it a significant global health problem. Improving patient outcomes and modify treatment options depend on early identification and precise diagnosis. In the world of Artificial Intelligence, Machine Learning has proven to be a most useful tool for recognizing medical conditions. By analyzing various clinical and patient data, it has the potential to help healthcare professionals in classifying diabetes cases more accurately. This study denotes the practical application of machine learning in the medical field by developing a prediction- based model for diabetes using various models. Early identification of diabetes as well as crucial effective management and better patient outcomes is the primary focus of our research initiative. The main objective of this project is to create a machine learning model that can effectively predict the possibility of diabetes onset, thereby reducing dependence on time-consuming and subjective human estimation, ultimately improving diagnostic consistency and efficiency.

Sr. No.	Paper ID	Title
10	27	S. A. Mithbavkar, M. S. Shah *Selection of Muscles, Acquisition Unit, and Dataset for Electromyogram-based Emotion Recognition*

Abstract– The emotional behavior of a person creates dominant impacts in many fields like teaching, hospitality, business, sports, and entertainment. Image or video processing-based emotion recognition requires camera alignment and light conditions. Electromyogram (EMG) based emotion recognition is a wide research area for detecting emotions without the restriction of surrounding conditions. The selection of proper muscles is also a tedious job. This survey paper gives a critical analysis of a selection of muscles that are responsible for expressing emotion and compares different EMG acquisition units and electrodes for capturing EMG signals. Here, we describe various publicly available EMG signal datasets.

Sr. No.	Paper	Title

	ID	
11	28	Yutika Kumbhar**,** Odilia Gonsalves, Yogita Khade, Anushka Jagtap *Resume Parsing and Categorization*

Abstract —In the ever-evolving landscape of today's job market, the sudden rise in the candidates has created significant obstacles in the hiring process. This growing challenge demands a transformative approach—one that enables organizations to effectively navigate the overwhelming volume of candidate profiles and streamline recruitment with greater efficiency. To streamline the recruitment process, the development of innovative tools and technologies is crucial. To address these challenges, this paper proposes the use of natural language processing (NLP) techniques to extract relevant skills from resumes, making it easier to match candidates with the right job openings. This research paper has proposed a model for the extraction of important information from a semi-structured format of text in a curriculum vitae to rank it in accordance with associated company requirements. The process is briefly divided into 3 portions/segments for the shortlisting of received CVs with the first segment consists of breaking down the entire resume based on the topics of each part. Following this, in the next segment, the data is extracted in a structured format from the unstructured data and the final segment evaluating the now structured data using the Random Forest Algorithm for classification of the input into various categories or classes, such as experience or qualifications.

Sr. No.	Paper ID	Title
12	29	Sonali Niketan Bhiwandkar,Odilia Gonsalves,Dhanashree Mahesh Thakur, Ramchandra Vijay Gawade *Advance AI-Driven Real-Time Detection and Monitoring the Presence of Living Entities on the Railway Stations for Enhance Safety*

Abstract — Safety must be given top priority in railway stations and tracks since accidents frequently occur when unauthorized people access restricted areas. An AI-powered real-time detection system for tracking the existence of living things on railroad tracks and platforms is presented in this study. The technology analyzes live video streams and uses YOLOv5, a cutting-edge object detection algorithm, to identify people in real time. The technology automatically sounds alerts when someone approaches designated safety zones close to the tracks, greatly accelerating reaction times and lowering the possibility of human error.

The system is built to function well in a variety of environmental circumstances, including various illumination and weather conditions, guaranteeing reliable operation in a range of railway situations. It reduces the need for manual intervention by providing dependable monitoring and timely notifications with an accuracy rate of 90%–95%. The system lessens the workload for railroad employees while improving overall safety by automating the detection and alarm procedure. This study offers a scalable and effective approach to real-time surveillance and accident prevention by introducing a novel and workable strategy for enhancing railway safety through AI-powered automation. Furthermore, no significant modifications or extra hardware are needed to incorporate the system into the current railway infrastructure. This smooth integration guarantees that the system can be expanded and implemented in multiple geographic regions.

Sr. No.	Paper ID	Title
13	31	Nisha Madankumar Jha, Ms. Odilia Gonsalves, Divyal Nilesh Patil,Vinaya Pramod Tiwari *MediScript AI- Deciphering Doctor's Handwritten Prescription and Alternate Drug Recommendation*

Abstract— Illegible handwritten prescriptions are a major cause of medication errors, risking patient safety and complicating healthcare delivery. MediScript AI addresses this challenge by leveraging Convolutional Neural Networks (CNNs) to accurately interpret handwritten prescriptions and using a Cosine Vector Algorithm to suggest alternative medications when needed. The system enhances patient safety, improves prescription accuracy, and streamlines pharmacy operations, particularly in areas where handwritten prescriptions remain common. Preliminary results demonstrate its effectiveness in recognizing diverse handwriting styles.

Sr. No.	Paper ID	Title
14	33	Aadit Pravin Mali, Ninad Ganesh Sathe, Ninad Atul Chavan, Manisha Pravin Mali *Quantum Machine Learning In Financial Fraud Detection*

Abstract — Global financial institutions are seriously threatened by the surge in financial fraud, and conventional machine learning techniques frequently fall behind the changing complexity of fraud. The efficacy of these techniques is limited by their difficulties with scalability, flexibility, and real-time feature extraction. By applying quantum computing concepts like superposition and entanglement, Quantum Machine Learning (QML) provides a revolutionary method that allows for quicker and more precise data processing than traditional methods. The application of QML techniques, such as Quantum Support Vector Machines and Quantum Neural Networks, for financial fraud detection is examined in this paper. The study analyses big datasets effectively and finds abnormalities more precisely by utilizing quantum techniques. The study evaluates QML performance against conventional machine learning models using tools like Qiskit, comparing measures like accuracy and recall. According to preliminary results, QML is better at spotting intricate fraud patterns, which suggests that it might be a reliable way to improve fraud detection. In order to protect digital transactions and create safe, fraud-proof systems, the report emphasizes how important it is for the banking sector to implement QML technology.

Sr. No.	Paper ID	Title
15	36	Rohan Borgalli, Kartik Poojary, Sarvesh Salkar, Prathamesh Paikade,Yogesh Thombare *Virtual Eye: Deep Learning Vision for Visually Impaired*

Abstract— This research focuses on 'Virtual Eye,' a deep learning-based system that assists visually impaired individuals by transforming visual inputs into auditory outputs. The system integrates a Vision Transformer (ViT) for image feature extraction and GPT-2 for generating descriptive captions. The captions are then converted into speech, allowing users to

understand the context of their environment. The application provides real-time image captioning and text-to-speech capabilities, enhancing accessibility and independence for visually impaired users. Experimental results demonstrate the system's accuracy and efficiency in various real-world scenarios.

Sr. No.	Paper ID	Title
16	38	Rajesh Morey, Sunil Pawar ***Compact EBG Based Checkerboard Surface For Radar Cross Section Reduction***

Abstract—In this paper, the reduction in Radar cross section(RCS) is achieved by using a checkerboard which is a composition of two different compact EBG structures. The checkerboard surface has two special EBG patterns, each located in a quadrant of the same ground plane, which can use special features of the EBG pattern to achieve a 10dB RCS reduction. The direction of scattered field can be altered by radar target to minimize the RCS. This alteration can be achieved by covering the target surface with a checkerboard of alternating EBG structures. The designed ch is engineered using Ansys High-Frequency Structure Simulator (HFSS), and the results were compared with RCS results for a perfect electrical conductor (PEC) surface.

Sr. No.	Paper ID	Title
17	41	Srija Sinha, Annu Yadav, Ashwini Kudtarka ***Mathematical Foundations and Applications of Fractals***

Abstract —Fractals, distinguished by their self-similar patterns and intricate formations, have intrigued mathematicians and scientists for many years. This study presents a mathematical examination of fractals, concentrating on their definitions, characteristics, and theoretical significance across diverse disciplines. Particular attention is given to the Hausdorff dimension, iterated function systems (IFS), and the influence of fractals within dynamical systems. Furthermore, the study investigates prospective research directions and applications within contemporary mathematics.visual feedback and tactile alerts through vibrations, ensuring that parents are promptly notified when their attention is needed. Furthermore, EmpowerVoice offers real-time monitoring capabilities, allowing parents to check on their infants remotely. The integration with the Telegram Bot provides a convenient platform for live streaming, fostering a seamless and accessible connection between parents and their babies. This innovative approach aims to redefine the parenting experience, providing a harmonious blend of advanced features and real-time connectivity for a more empowered and enriched caregiving journey.

Sr. No.	Paper ID	Title
18	42	Annu Yadav, Ashwini Kudtarkar, Srija Sinha, Ashwini Modi ***A Study of Graph Theory and Its Applications***

Abstract —Graph theory, a core branch of mathematics, focuses on the study of graph structures consisting of nodes (vertices) and the edges connecting them. Over the last century, it

has transformed from a theoretical subject into a widely applicable field across disciplines such as computer science, engineering, biology, social science, and transportation. This paper delves into the foundational principles of graph theory, its key theorems, and its varied applications in real-world scenarios. It highlights the significance of graph algorithms, including shortest-path algorithms, maximum flow algorithms, and graph coloring, in addressing practical challenges. Additionally, the paper reviews recent developments in the field and explores emerging applications of graph theory in contemporary technological domains.

Sr. No.	Paper ID	Title
19	43	Ashwini Kudtarkar, Srija Sinha, Annu Yadav, Gauri Atre *Importance Of Statistics*

Abstract —This paper is focused on the issues related to optimizing statistical approaches in the emerging fields of Computer Science and Information Technology. More emphasis has been given on the role of statistical techniques in modern data mining. Statistics is the science of learning from data and of measuring, controlling, and communicating uncertainty. Statistical approaches can play a vital role for providing significance contribution in the field of software engineering, neural network, data mining, bioinformatics and other allied fields. Statistical techniques not only helps make scientific models but it quantifies the reliability, reproducibility and general uncertainty associated with these models. In the current scenario, large amount of data is automatically recorded with computers and managed with the data base management systems (DBMS) for storage and fast retrieval purpose. The practice of examining large pre-existing databases in order to generate new information is known as data mining. Presently, data mining has attracted substantial attention in the research and commercial arena which involves applications of a variety of statistical techniques. Twenty years ago mostly data was collected manually and the data set was in simple form but in present time, there have been considerable changes in the nature of data. Statistical techniques and computer applications can be utilized to obtain maximum information with the fewest possible measurements to reduce the cost of data collection. Keywords: Statistics, Data Mining, Software Engineering, DBMS, Neural Networks, etc.

Sr. No.	Paper ID	Title
20	46	Ashwini Modi, Gauri Atre, Annu Yadav, Kamaljit Kaur *Substituting Pell Numbers for Lucas Numbers: Growth Dynamics and Applications"*

Abstract — This paper explores substituting Pell numbers for Lucas numbers in recurrence-based models. With faster growth dynamics, Pell numbers impact combinatorial problems, re-cursive algorithms, and number theory. Simulations highlight benefits in rapid growth applications and challenges in efficiency, offering insights into optimizing models and leveraging alternative sequences like Tribonacci in diverse fields.

Sr. No.	Paper ID	Title
21	51	Rohan Shah, Manimala Mahato *AI Generated Text detection using ML: Issues and Challenges*

Abstract— The enormous reliance on synthetic text created by artificial intelligence (AI) in the modern day poses significant risks to the veracity of content across numerous platforms. This review study aims to gather and evaluate the many works that have focused on AI text recognition. We evaluate the efficacy, limitations, and applicability of several methods and tools that aim to distinguish between human and AI-written texts. Copyright verification, academic integrity, and disinformation identification are just a few of the many use cases covered by our study. This paper seeks to demonstrate the vital function of detection systems in verifying the legitimacy of content by examining significant findings, advancements in technology, and ongoing challenges within the domain. Moreover, we investigate the ethical concerns and potential social impacts of introducing such technology. As AI's capabilities keep expanding, this paper emphasizes the need for continuous research, development, and interdisciplinary collaboration to enhance synthetic text detection. That is the only way to ensure that, in a world where automation is becoming more common, digital content remains intact.

Sr. No.	Paper ID	Title
22	55	Krishna Thakur, Manthan Joshi *Dastaavej Assistance*

Abstract —Digitization of public services is crucial for delivering fast and secure solutions to citizens. Traditional document issuance processes, often conducted offline, lead to delays and require individuals to visit offices multiple times, particularly when documents are missing or need repeated verification. These inefficiencies hinder access to critical services. Dastaavej Assistant addresses this challenge by providing a fully online platform for document processing, from application to issuance. The system incorporates a three-tier verification model, inspired by the passport issuance process, where junior officers, followed by senior officials, review and approve applications to ensure accuracy and prevent fraud. This approach enhances the speed, security, and convenience of document issuance, making Dastaavej Assistant a vital step toward efficient public service delivery.

Sr. No.	Paper ID	Title
23	58	Shraddha Atul Mithbavkar, Piyush Dalvi, Raj Bhosle, Sammit Dashpute *Streamlining Hospital Admissions with NFC-Based Android Application*

Abstract — Hospital admissions often require extensive paperwork, causing delays in patient care. This paper presents an innovative Android application leveraging Near Field Communication (NFC) technology to automate the registration process at hospital receptions. By enabling users to transfer patient details instantly via NFC-enabled devices, the system minimizes the time required for admission procedures. The proposed solution demonstrates significant potential in enhancing operational efficiency and improving patient outcomes.

Sr. No.	Paper ID	Title
24	59	Madhavi S. Pednekar, Prathamesh Kurdekar, Neel Pujari, Kaustubh Bhattacharyya, Divya Sharma

		Analysis and Comparison of Methods of Speech Recognition Using Neural Network

Abstract —This system describes various methods of Speech Recognition based on performance analysis using Neural Networks. It aims to identify the most accurate and efficient techniques among Artificial Neural Network (ANN), Random Forest (RF), Radial Basis Function (RBF), and Multilayer Perceptron (MLP) models used for speech recognition. Initially, audio is processed to remove background noise and ensure consistency. Essential features aiding speech identification are extracted, followed by data refinement that emphasizes crucial features, enhancing system speed and intelligence. A hybrid approach combining Fennec Fox Optimization (FFO) and Tuna Swarm Optimization (TSO) is employed for optimal feature selection. Implementation is carried out using Neural Network models: ANN, RF, RBF, and MLP, to determine superior performance based on parameters like Accuracy, Precision, Specificity, Recall, False Negative Ratio (FNR), False Positive Ratio (FPR), Error, Kappa, and more. This comparison identifies the best-performing method and explores ways to improve the overall accuracy and efficiency of speech recognition systems. This study contributes to advancing speech recognition technology and provides a foundation for future research in the field.

Sr. No.	Paper ID	Title
25	61	Divya Kumawat, Deepak Abhayankar, Sanjay Tanwani, ***A Dual-Model Approach for Distance Measurement between Objects by Using Monocular Image***

Abstract — Relative distance measurement in images are crucial in various fields, such as computer vision, robotics, and surveillance systems. This paper reviews the methodologies, algorithms, and technologies used for relative distance measurement, emphasizing their applications, advantages, and limitations. This study combines object detection using YOLOv8 with monocular depth estimation from the MiDaS model to determine distances between objects in a 3D space. Unlike stereo vision, this method require low computation resources in terms of geometric rectification and disparity matching. While LiDAR system produce better results, their cost makes them unsuitable for extensive use. We tested our method on a limited dataset, and the result validated it with minimum error rate of just 13.6%. This technique has a great promise for applications such as 3D scene reconstruction, autonomous vehicles, augmented reality etc. providing a realistic and cost-effective solution with fine grained spatial understanding.

Sr. No.	Paper ID	Title
26	62	Neeta Moharkar, Charushila Pawar, Gauri Vaidya ***Advance Automation For Transformer Using Scada Data***

Abstract —Transformers are an important part of electrical transmission. Since the invention of the first voltage transformer in 1885, transformers have become indispensable equipment for the transmission, distribution and use of alternating current in power transmission lines. In this proposed system different sensors are used to detect the fault in the transformer. The SCADA and PLC combinational circuit provide required Real time operation. It is an essential step to

monitor transformers before using them to avoid the risk and fault. It can reduce the cost of maintenance. This paper represents the proposed system of design and simulation of a plc based monitoring system based on SCADA to achieve computerisation to display screens to examine transformer parameters like voltage, current and voltage.Today the functionality of Supervisory control and data acquisition (SCADA) and PLC interfacing is used to monitor the system on large application process plants where high reliability and security is important.

Sr. No.	Paper ID	Title
27	63	Ashwini Rajendra Kachare, Yogita Shelar, Shweta Sharma,Veena Gajbhiye ***Sentiment Analysis for Natural Language Processing***

Abstract —Sentiment analysis, a subset of natural language processing (NLP), is the computational study of people's opinions, emotions, and attitudes expressed in text. This paper explores the significance, methodologies, applications, and challenges of sentiment analysis, emphasizing its pivotal role in understanding human language and its impact on industries ranging from marketing to social media monitoring

Sr. No.	Paper ID	Title
28	64	Suvarna Yogesh Pansambal, Mahendra Patil, Shriya Salunkhe Swikruti Dongaonkar ***A Comprehensive Review of Social Media Analytics Techniques***

Abstract — Social media analytics has become a crucial tool for gaining insights and influencing decisions across various sectors, including marketing, politics, and public health. This paper examines key research studies to explore the current methods used in social media analytics. The techniques are categorized into text analysis, network analysis, multimedia analysis, and predictive analytics, with a focus on their applications, challenges, and future possibilities. The findings highlight the importance of advancements in AI and machine learning in shaping the future of these tools, while also addressing the ongoing concerns around ethics and privacy.

Sr. No.	Paper ID	Title
29	65	Abhilasha Saini, P.N. Nemade, Priyanka Badani, Pinky Steffi A ***A Review of SEM & TEM Characterisation Methods for Nanomaterials***

Abstract —Nanotechnology brings up the manipulation, characterization, and engineering of materials at the nanorange, typically varying from one to one hundred nanometers. This interdisciplinary domain holds profound potential across various fields, inclusive of chemical science, electronics, physical science, morphology, and material science. The properties of nanomaterials often diverge significantly from their bulk counterparts, resulting in unique behaviors and applications. Contemporary research in nanoscience primarily focuses on fine-tuning the structural properties of nanoparticles and integrating them into larger material systems. This paper focuses on imparting a succinct overview about the diverse methodologies

employed for characterization and synthesizing nanomaterials.

Sr. No.	Paper ID	Title
30	66	Shriya Salunkhe, Swikruti Dongaonkar, Suvarna Pansambal, Mahendra Patil ***A Comprehensive Study of Utility based Pattern mining***

Abstract — Utility-based pattern mining (UBPM) is an advanced data mining method that seeks to find patterns with high utility, which is the worth or importance attached to a pattern's presence in a particular dataset. A thorough examination of utility-based pattern mining is provided in this work, which also reviews important ideas, difficulties, algorithms, and applications. We talk about future trends in this field of study, contrast utility-based methods with conventional frequent pattern mining techniques, and emphasize the usefulness of utility in real-world applications.

Sr. No.	Paper ID	Title
31	67	Mahendra Patil, Suvarna Pansambal, Shriya Salunkhe, Swikruti Dongaonkar, Swapna Patil ***A Comparative Analysis of Explainable AI Techniques for Enhanced Model Interpretability***

Abstract — The increasing adoption of artificial intelligence (AI) in critical applications has brought attention to the interpretability and transparency of these systems. With the complexity of AI models growing, particularly in deep learning, Explainable AI (XAI) has become essential to address concerns regarding their opaque decision-making processes. This paper explores and compares major XAI techniques, examining their effectiveness, scalability, and suitability for various applications. By evaluating the benefits and limitations of these methods, this study aims to guide researchers and practitioners in making informed choices for enhancing model interpretability, ultimately contributing to the development of ethical and transparent AI systems.

Sr. No.	Paper ID	Title
32	68	Ranjana Singh, Jyoti Rampati Singh Hitakshi Trivedi, Aditya Singh ***Comix-Gen AI: Text to Comics Generation***

Abstract— Comic generation is an innovative approach to storytelling that leverages the power of machine learning and deep learning techniques to automate the creation of comic panels. This paper presents Comix-Gen, a comprehensive system designed to transform user-provided text descriptions into fully realized comic illustrations featuring characters, environments, and dialogues. The system employs advanced methodologies, including Natural Language Processing (NLP) for text classification, Generative Adversarial Networks (GANs) for image generation, and Convolutional Neural Networks (CNNs) for feature extraction and style consistency. By integrating these components, Comix-Gen addresses the challenges of visual coherence, character representation, and dialogue authenticity, paving the way for a seamless comic creation experience. Through extensive experimentation, the system demonstrates high

accuracy in character and emotion detection, producing visually compelling and narratively coherent comic panels. This research not only contributes to the field of automated comic generation but also inspires new avenues for interactive storytelling in the digital age.

Sr. No.	Paper ID	Title
33	69	Veena Gajbhiye, Shweta Sharma, Yogita Shelar, Ashwini Kachare ***Enhancing Security in IoT and Cyber-Physical Systems: A Comprehensive Approach to Cyber Threats***

Abstract —The Internet of Things and Cyber-Physical Systems represent interconnected networks that combine physical devices with digital components. Revolutionizing Different Industries like healthcare, Transportation and intelligent systems.city development, by enhancing connectivity and enabling greater automation. However, the swift implementation of these technologies has brought about new security concerns. Introduced new security challenges. The Internet of Things and CPS are increasingly targeted by cyber-attacks due to their widespread deployment and integration into critical infrastructure. This paper presents a comprehensive approach to Improving security in the Internet of Things and CPS, Identifying key cyber security issues and suggesting practical solutions. The paper highlights secure communication protocols, intrusion detection systems, authentication mechanisms, and emerging technologies such as block chain[1]. It also discusses strategies for improving the resilience of these systems to cyber threats, ensuring their protection against evolving attack vectors.

Sr. No.	Paper ID	Title
34	70	Shweta S Sharma, Veena V Gajbhiye, Ashwini Rajendra Kachare,Yogita Shelar ***Review on: Enhancing Cryptography: A Modified Encryption Scheme for Efficient Data Protection***

Abstract- In the evolving landscape of cybersecurity, the need for effective encryption algorithms to safeguard sensitive data remains paramount. This paper offers a comprehensive review of several widely adopted symmetric-key encryption algorithms, with a particular focus on AES (Advanced Encryption Standard) and RC4 (Rivest Cipher 4). It compares the security, efficiency, and practicality of these algorithms against other prominent ciphers, such as DES (Data Encryption Standard), 3DES, and modern stream ciphers. The study analyzes the theoretical foundations of each algorithm, including their cryptographic strengths, vulnerabilities, and susceptibility to various forms of attack. In particular, AES is recognized for its robustness and broad acceptance as a secure standard, while RC4, once popular for its simplicity and speed, has shown significant weaknesses in real-world applications. This paper also explores recent advancements in cryptanalysis and the implications these have for the continued use of these algorithms. The review seeks to offer a comprehensive understanding of the trade-offs involved in choosing the most appropriate encryption technique for various data security needs, considering factors like performance, scalability, and adaptability to emerging threats.

Sr. No.	Paper	Title

	ID	
35	71	Swikruti Dongaonkar, Shriya Salunkhe, Mahendra Patil, Suvarna Pansambal ***Evaluating the Effectiveness of Explainable AI in Teaching Ethical Implications of AI in Engineering***

Abstract-The rapid integration of Artificial Intelligence (AI) into various engineering domains has necessitated a robust understanding of its ethical implications. Explainable AI (XAI) has emerged as a promising approach to bridge the gap between complex AI systems and human comprehension[1]. This paper evaluates the effectiveness of XAI in teaching the ethical implications of AI to engineering students. By analyzing educational case studies, curriculum designs, and empirical assessments, we examine how XAI can enhance ethical reasoning and decision-making skills. Our findings suggest that XAI fosters deeper engagement and critical thinking, making it a valuable pedagogical tool in engineering ethics education.

Sr. No.	Paper ID	Title
36	72	Yogita Shelar, Ashwini Kachare, Shweta Shukla,Veena gajbhiye ***Exploring the Landscape: A Survey on Different Methods of Quantum Computing***

Abstract–Quantum algorithms have shown immense potential in resolving problems that are computationally infeasible for traditional systems. This paper presents a comparative study of three fundamental quantum algorithms: Shor's Algorithm, the Quantum Approximate Optimization Algorithm (QAOA), and Grover's Algorithm. Each algorithm addresses distinct computational challenges, including factorization, optimization, and unstructured search problems. The paper examines their theoretical foundations, computational efficiencies, hardware requirements, and practical applications, providing insights into their relative strengths and limitations.

Sr. No.	Paper ID	Title
37	73	Mohammad Ahmed M. Y. Ansari, Aditya Manoj Pal, Chinmay Anant Patil, Prathamesh Liladhar Patil ***Integrated Machine Learning for Cricket: Predicting Match Winners***

Abstract-Fantasy cricket has emerged as a popular pastime among cricket enthusiasts, offering an immersive experience that allows fans to engage with the sport on a deeper level. However, the process of selecting a winning fantasy cricket team presents significant challenges for users, including the need to analyze player statistics, match conditions, and navigate budget constraints and team requirements. To address these challenges the proposed system integrates optimization techniques to maximize team performance while satisfying the constraints imposed by fantasy cricket platforms. By striking a balance between performance optimization and constraint adherence, the system aims to provide users with optimal team compositions that increase their chances of success in fantasy cricket leagues. The effectiveness of the proposed system is evaluated through rigorous testing and validation procedures. Performance metrics are used to assess the predictive capabilities of the ML models and the overall performance of the system. By demonstrating the reliability and accuracy of the system, this research aims to

instill confidence in users and encourage widespread adoption of the proposed approach. This research paper introduces a pioneering approach to revolutionize the fantasy cricket landscape through the integration of machine learning (ML) techniques for player selection.

Sr. No.	Paper ID	Title
38	80	Anurag Prakash Patil,Ravi Prakash, Bharati Singh, Simran Zanke, Yakshi Sharma *Supervised Learning-Based Tuned Model for Report Generation: Analytical Approach*

Abstract—This paper proposes a model to reduce organizational dependency on humans and streamline financial report analysis using a specialized pretrained BERT model. The system utilizes sophisticated Natural Language Processing (NLP) methodologies such as document summarization, keyword extraction, named entity recognition, and intent recognition to efficiently process large, complex reports. Hyperparameter tuning, additional layers, and dropout nodes enhance the model's performance. Convolutional Neural Networks (CNNs) are employed for visualizing financial graphs. This approach improves report navigation, reduces errors, and enhances decision-making by providing stakeholders with structured, relevant insights, enabling faster, more accurate responses in financial firms.

Sr. No.	Paper ID	Title
39	82	Charushila Pawar, Neeta Moharkar, Prajakta Pawar, Dhanashree Pannase *Different Conductors Performance Of Power Loadability Medium Transmission Line*

Abstract— In communications and electronic designing, a transmission line is a specialized cable or other structure outlined to carry substituting current and its control figure, that is, streams with a conductor execution and nature must be taken into account. Progressed plan and innovation patterns in cables and conductors are centered on lessening the right-of-way (Push) prerequisite as well as expanding the current-carrying capacity of transmission lines.

Sr. No.	Paper ID	Title
40	83	Kshipra Pandey, Chandrakant Rathore *Comparison of ACO and ABC optimization for optimal power flow*

Abstract—Demand for Electric Power is elevating because of increasing consumers in the market. With the rise of Smart Grids, customers can also actively participate in Energy Management Programs. These programs, also called as Demand Response Programs can reduce their electricity bills and can also give them incentives or perks. The main aim of DRPs is to reduce energy consumption during peak hours and improve the load factor. Also, Renewable Energy Sources do act as an adjunct source besides the grid but it further complicates the system. Certain challenges are there in implementation of DRPs which make Demand Side Management still a far away dream. This work started with implementation of optimization techniques like Whale Optimization Algorithm, Particle Swarm Optimization and

Ant Colony Optimization on smaller bus systems like IEEE 5 Bus System and IEEE 9 Bus System. Further comparison of the three optimization techniques is done. Work with implementation of Gbest Artificial Bee Colony system on IEEE 57 bus was done previously. IEEE 118 bus System.

Sr. No.	Paper ID	Title
41	84	Sameer Katakdounde ***Review of Six Sigma and DMAIC Methodology: Frameworks, Tools, and Applications in Modern Business Operations***

Abstract — Six Sigma is a data-driven methodology aimed at improving business processes by minimizing defects and reducing variability. Initially developed by Motorola in the 1980s, it has since been adopted across multiple sectors, including manufacturing, healthcare, finance, and technology. A central tool within Six Sigma is the DMAIC framework, which facilitates the enhancement of existing processes. This paper provides an overview of the workings of Six Sigma and DMAIC, details the tools employed, presents real-world case studies, and examines the advantages and challenges of their application.

Sr. No.	Paper ID	Title
42	85	Sarvesh Sandip Mhatre, Vanita Mane, Manasvi Dhavale, Aaryaman Chauhan, Sankalp Khakse ***CardioCare: An Integrated ML Model for Heart Disease Risk Prediction***

Abstract —CardioCare is an innovative approach designed to predict heart disease by integrating cutting-edge machine learning algorithms, including Random Forest Classifier, SVM, XGBoost, LightGBM, AdaBoost, CatBoost, MLP (Multi-Layer Perceptron), and RNN (Recurrent Neural Network). Using an extensive dataset of cardiovascular health indicators, the app applies predictive modeling to efficiently estimate the risk of heart disease. The platform features an intuitive interface that simplifies data entry and result interpretation, making it accessible to a diverse range of users. CardioCare delivers real-time risk evaluations,enabling users to take proactive measures in maintaining their heart health. By focusing on early detection and preventive strategies, the website seeks to raise individual awareness and contribute to the reduction of heart disease cases.

Sr. No.	Paper ID	Title
43	86	Anuradha Lumba ***MQTT-enabled Smart Home System Simulation with Edge Server***

Abstract-This paper presents a simulation study of an MQTT-enabled smart home system integrated with an edge server. The simulation models the interaction between various IoT devices[9], edge server, and cloud services using MQTT protocol. MQTT-based[7] communication: Explores the advantages of MQTT's lightweight and publish-subscribe architecture for efficient and reliable inter-device communication within the smart home network. The edge server is deployed to optimize data processing, reduce latency, and improve

real-time responsiveness. Edge server integration: Investigates the role of an edge server in processing sensor data locally, executing control algorithms, and facilitating real-time responses, thereby reducing latency and improving system responsiveness. Device interoperability: Examines the challenges and solutions for ensuring seamless interoperability between diverse smart devices from different manufacturers within the MQTT-based ecosystem. Simulation results demonstrate the effectiveness of the proposed system in terms of latency reduction, bandwidth optimization, and improved smart home automation[9]. The simulation framework provides a scalable and flexible platform for evaluating and optimizing smart home system performance under various scenarios. The Simulation results demonstrate the effectiveness of the proposed system in terms of latency reduction, bandwidth optimization, and improved smart home automation and also provide valuable insights into the feasibility, scalability, and performance characteristics of MQTT-enabled smart home systems with edge computing[8].

Sr. No.	Paper ID	Title
44	87	Sakshi Sanjay Aghav, Aaryan Manoj Gorana, Vishal Santosh Gupta, Jyoti Sahadev Mali ***Pisecure: Integrated Firewall solution for Network Protection***

Abstract—The paper focuses on developing an affordable and effective firewall solution for network security using the Raspberry Pi, a compact and versatile computing platform. By leveraging open-source tools like iptables, nftables, and intrusion detection systems (IDS) such as Snort or Suricata, the firewall offers features like packet filtering, deep packet inspection, and real-time traffic monitoring. A custom Python-based firewall is also integrated to allow dynamic, rule-based network traffic control, managed via a user-friendly web-based dashboard built with Flask.

This dashboard enables users to configure firewall settings, view traffic logs, and receive alerts for unusual network activities easily. Performance testing, including measurements of network throughput, latency, and resource usage under different load conditions, confirmed that the Raspberry Pi is a reliable and efficient firewall for small-scale networks, including home or small business setups.

The design effectively tackles challenges such as managing high traffic volumes and optimizing the Raspberry Pi's constrained resources. Additionally, it ensures flexibility and scalability for diverse applications. Future enhancements may involve integrat- ing VPN functionality and incorporating AI-driven anomaly detection for advanced threat identification, further improving the firewall's capability to safeguard networks and provide a robust, customizable security solution.

Sr. No.	Paper ID	Title
45	91	Swaranjaly S. Jagtap, Vinayak D. Shinde ***Automated Invoice Data Extraction Using OCR, NLP, and Anchor-Based Determination for Enhanced Data Capture and Processing***

Abstract- In today's dynamic business environment, efficient processing and handling of invoice data are crucial for optimizing operations. This paper proposes an automated approach

for data capture and extraction from invoice images using Optical Character Recognition (OCR) and Natural Language Processing (NLP) techniques. OCR is employed to convert invoice images into Tab-Separated Values (TSV), which are then transformed into JSON objects for systematic analysis. Relevant data fields within the invoice are identified using anchor determination with regular expressions (Regex). To validate and enrich extracted data against predefined entities such as organizations, places, and individuals, the Compromise.js NLP library is used. The processed data is further filtered into an entity set and stored in CSV format for integration with databases. The methodology was tested on two invoice layouts, yielding high accuracy rates: 99% at the character level, 98.5% at the word level, and 97% at the line level. However, limitations arise from the specificity of Regex patterns, which restrict their application to particular formats. Future work could explore more adaptable Regex patterns combined with advanced machine learning and NLP techniques to handle varied invoice formats and layouts effectively.

Sr. No.	Paper ID	Title
46	92	Tasmiya Sarfaraz Khan, Sujata Khedkar, Srushti Satish Sambare, Purtee Santosh Mahajan, Ketaki Dhananjay Nalawade ***Metadata Extraction from Legal Contracts Using Large Language Models***

Abstract- Contracts are formal agreements with legal force that govern interactions between people or entities. Different sections and clauses of the contracts are defined regarding obligations, rights, and responsibilities of each party involved. Due to the complexity as well as the volume of legal contracts, extracting key metadata is highly important in ensuring efficiency for legal professionals. This paper addresses the use of Large Language Models to automate the extraction of core metadata from legal contracts, including clauses such as liability, insurance, and jurisdiction, and organizing it into a structured, tabular format for easier analysis. We make use of the OpenAI Azure LLM to produce a full-stack solution, able to parse and structure this metadata into a format that is usable. The study addresses problems related to large prompt sizes and various optimization strategies that could be applied to such systems in order to attain better efficiency and accuracy. In addition, we include real-time FAQ generation from the legal contracts. The goal behind this research therefore is to verify the potential that LLMs may bring to streamline legal workflows while ideally addressing technical and operational challenges found in large-scale metadata extraction tasks.

Sr. No.	Paper ID	Title
47	93	Srushti Sambare, Sujata Khedkar, Tasmiya Khan, Purtee Mahajan, Ketaki Nalawade ***Financial and Corporate Risk Analysis Using Large Language Models (LLMs)***

Abstract-The purpose of this paper is to examine how Large Language Models (LLMs), specifically Gemini, may be used in financial and corporate risk analysis. In particular, we utilize LLMs to perform risk assessment activities using corporate data in the form of Corporate Earnings Calls, Annual Public Reports and Environmental, Social, and Governance (ESG) reports. Our objective is to understand the potential risks of doing business by

undertaking individual risk assessment in these data sources. All these risk assessments are subsequently combined into one risk report, reflecting all possible risk exposures associated with the company's activities. This technique improves the overall efficiency of risk assessment due to the decrease of time needed for its completion while increasing the quality of available information for decision-making.

Sr. No.	Paper ID	Title
48	94	Sweta R. Sharma, Tushar H.Ghorpade , Bharti A. Joshi *OCR Tools: A Demonstrative Study for Information Extraction*

Abstract-A large number of organizations still use paper-based documentation. It becomes difficult and time-consuming to extract the necessary data from them. In addition to negatively affecting cost and time efficiency, this excessive paper consumption also hurts the environment due to the deforestation required to create these papers. To cut down on paper use, Usually, these paper-based documents are scanned and saved as images during their transition. This creates a requirement for technology that can identify and retrieve data from scanned images of paper documents. OCR is the process of turning handwritten or picture text into a format that computers can read. The process of electronically translating handwritten, typewritten, or printed text into automatically translated images is known as optical character recognition, or OCR. It is frequently used as a kind of data entry from original paper sources, such as bank or consultation documents, passport documents, bills, statements, receipts, cards, correspondence, or any other written records. Computer vision, artificial intelligence, and pattern recognition are all combined in the research of OCR. OCR is also dependent on the quality of the image. The accuracy of text recognition might be impacted by low-quality scans or photos. Handwriting, illegible or unclear letters, and various fonts all reduce OCR accuracy; also, each language has its own peculiarities and fonts, making it challenging to identify text written in multiple languages.This paper focuses on the study of various OCR tools and extraction of information from unstructured data.

Sr. No.	Paper ID	Title
49	95	Sharvari Ravindra Tare, Sambhram Santosh Shetty, Ashwani Ravindra Sahani , Vedant Ravindra Kokamkar, Jyoti Sahadev Mali *Krishi Kaushal- AI rover with Precision Farming*

Abstract—This paper seeks to address one of the few issues Indian farmers face: the wasteful use of water on agricultural land, which has an adverse effect on the environment and soil. Understanding the components of soil, the foundation of all farming, aids in determining what is needed for improved plant growth. The method is divided into two parts. The first involves using algorithms to forecast results by assessing natural parameters such as soil moisture, temperature, and humidity. The next is identifying the health of the plant by classifying images of its leaflets.The primary aim is to achieve the combined outcomes of the two approaches by means of a rover inspired by the Rockie-Boger model that is most effective over the terrestrial terrain and can access the majority of the land.The end result is shown via the web application, which provides a thorough explanation and straightforward analysis of the farm's water needs, identifies the arid regions, and modifies farming practices such as watering schedules and sprinkler placement accuracy. The entire procedure is to advance AI prediction and robotic

automation in farming methods for improved outcomes and higher yields.

Sr. No.	Paper ID	Title
50	96	Chahat Tandon, Shahzia Sayyad, Vidyullata Devmane ***Code-switched: clearing the path for simple multilingual interaction***

Abstract — Within the field of Automatic Speech Recognition (ASR), Automatic Speech Recognition (ASR) finds it difficult when speakers switch between two or more languages. This work presents original codes for code-switched Hindi-Marathi speech. Our dynamic switching approach finds the optimal language transition points by means of Deep Q-Networks (DQN) and reinforcement learning techniques like Q-Learning. We present a dataset tailored especially for bilingual speakers. Based on WER and CER, we present a thorough model performance research together with tools, assessment of code swapped voice datasets, and methodology. We end with unresolved questions about research and recommendations for strengthening ASR system flexibility and resilience in challenging multilingual environments.

Although Automatic Speech Recognition (ASR) technology is transforming human-machine interaction in 2024, it suffers with low-resource Indian languages including Marathi, Gujarati, Tamil, Kannada, and Hindi, particularly in code-switching interactions. This work generates synthetic datasets, advances switching techniques, and optimizes advanced transformer models for Hindi-Marathi code-switching. Syntactic, Random Switch, Midpoint Switch, and Balanced Modes were used to mimic real-world datasets. Random attained a WER of 0.5045 and a CER of 0.2220. Using pre-trained capacity, we optimized transformer models including Wav2Vec2 and XLS-R on these datasets to address Hindi-Marathi code-switching challenge.

The project reduces the technical gap for low-resource languages by providing pragmatic multilingual transcribing services, educational materials, and accessible platforms. Code-switched ASR enables inclusive, real-time speech recognition systems for several language communities.

Sr. No.	Paper ID	Title
51	97	Rishabh Shah, Alan George, Yukta Saraf, Rujuta Jariwala , Nikita Raichada ***JARVIS: Voice Assistant with Smart Home Automation***

Abstract - This paper explores the integration of virtual assistant technology with home automation systems. The voice assistant JARVIS leverages natural language processing to understand user requests and perform tasks such as information retrieval from Wikipedia, open YouTube, and perform mathematical calculations and manage alarms. It answers user queries using LLM models and simplifies daily routines, thereby revolutionizing our interaction with the technology in our homes. We utilize various artificial intelligence (AI) and natural language processing (NLP) libraries for improving speech recognition of our system. Our setup involves using Raspberry Pi 3B+ to link with IoT devices and sending signals over the Internet for home automation. We prioritize the security of the user by ensuring that the data does not get stored in the cache memory. This research takes a thorough look at how we can blend virtual assistant technology into home automation systems to make living spaces more accessible to users.

Sr. No.	Paper ID	Title
52	98	Kunal Chaugule, Ragini Sharma, Sakshee Daundkar, Shweta Chavan ***Stereo Vision with ESP32-CAM: Depth Estimation for Autonomous Driving Applications***

Abstract —Depth estimation is one of the critical tasks in computer vision as it allows machines to estimate the depth of the scene and the objects in it. This capability is especially important in self-driving cars since inducing proper and safe behavior of the car depends largely on the precise orientation in the space. Depth estimation enables the sensing of the distance of neighboring objects, direction planning, and accurate operations such as parking or changing lanes. In order to develop a practical low-cost system for this purpose, this paper focuses on depth estimation using stereo vision techniques. Stereo vision which mimics the human ability to see at a distance refers to the computation of the disparity of images captured using two cameras arranged at a small distance apart. In order to calculate disparity maps and then convert them into depth information, a mathematical approach is adopted that can be employed in driving situations such as object identification, path determination, and no collision zone identification. For this purpose, the proposed system is implemented in a controlled environment to measure its performance. Despite these advantages, issues like low resolution or high processing latency are handled, with an eye toward practical applications of the technique moving forward. This is because, as this research demonstrates, the ability to estimate depth is the key prerequisite on the way toward creating more effective and safer autonomous driving systems.

Sr. No.	Paper ID	Title
53	99	Khushi Mistry, Subodh More, Mrunal Sangle, Parnika Patil, Jyoti Mali ***Underwater Inspection and Surveillance Submersible Vehicle***

Abstract —Water covers over 70 percentage of the Earth's surface, hiding a vast unexplored world beneath the seas. Underwater surveillance and videography play crucial roles in diverse applications such as dam and bridge inspections, fishing surveillance, sea life documentation, and oceanographic studies. Effective underwater inspection is vital for monitoring sea life conservation and pollution, crucial for maintaining the health of marine ecosystems that produce a significant portion of the oxygen we breathe. This project presents the design and development of an Remote Controlled underwater surveillance drone capable of easy navigation and data collection. The drone offers advantages such as direction control, dual motor propulsion, lightweight and anti-rust design, making it suitable for long-term use. The propulsion system includes two motors for horizontal movement and a third motor for vertical alignment, enabling seamless underwater maneuverability without the need for ballast tanks. The drone's camera captures underwater footage, transmitting it to a floating buoy unit for real-time monitoring. The Raspberry Pi controller handles footage transfer and transmission. Additionally, the buoy unit serves as a retrieval system if the drone gets stuck or runs out of battery. Key features include object detection and recognition using AI models trained on marine life and underwater objects, environmental monitoring through integrated sensors analyzing water quality, marine life tracking and identification using pre-trained models, and image enhancement for improved visibility. By integrating these features, the RC underwater surveillance drone provides a comprehensive solution for a wide range of underwater

inspection needs, contributing to marine conservation and pollution control efforts.

Sr. No.	Paper ID	Title
54	100	Ragini Sharma, Rajdeep Girkar, Suyash Ghorpade, Sahil Madge, Suraj Gamre ***A Scalable Solution for CKD Diagnosis and Decision Support Tool for Early Intervention***

Abstract- The progressive decline of kidney function marks Chronic Kidney Disease (CKD) leading to renal failure when treatment fails to occur or disease diagnosis is late. A predictive model for CKD required machine learning implementation into an easy-to-use web application for the proposed system development. We ran supervised learning algorithms against clinical and laboratory parameters (such as age, blood pressure and serum creatinine) in order to detect indicator patterns for CKD. The dataset required cleaning through preprocessing followed by feature selection procedures to build an effective predictive model. Several tests including accuracy along with precision and recall and F1-score were applied during our evaluation to assess our machine learning models' performance. The selected model demonstrated solid stage prediction capabilities which establish it as a practical decision tool for healthcare professionals. Our team created a web application powered by a predictive model which integrates with a database through flask to deliver an easy-to-work-with platform for enhanced accessibility and usability. Users get 'predictions' instantly together with timely follow-up actions through our application. Research findings demonstrate how combining machine learning with web technologies solves critical healthcare challenges through scalable cost-effective diagnostic tools.

Sr. No.	Paper ID	Title
55	101	Sujata Khedkar, Purtee Santosh Mahajan, Tasmiya Sarfaraz Khan,Srushti Satish Sambare, Ketaki Dhananjay Nalawade ***Annual Public Report Analysis ChatBot Using LLMs***

Abstract— In today's data-driven world, interpretation of public annual reports might become a very time-consuming process for the stakeholders. This paper introduces the concept called an Annual Public Report Analysis Chatbot using LLM, through which automatically going through reports and generating intuitive answers through AI will be possible. The chatbot is designed to help stakeholders extract key insights from annual public reports, making the information easier to understand and more actionable.Utilizing AI capabilities, this system does not merely provide correct responses to questions it receives from the user but also provides comparative analysis and data visualization options to further help the decision-making process.The intent of this project is to change the way that stakeholders interact with complex reports making the process associated with analyzing those reports streamlined and empowering such decision-makers to go data-driven. The chatbot processes public reports by extracting and organizing the information into a structured knowledge base, enabling efficient retrieval of relevant insights. It helps users uncover key information from annual reports, making the content clearer and more actionable. By leveraging AI, the system provides accurate answers to user queries and offers comparative analysis and data visualization, supporting informed decision-making. One of its standout features is

text-to-speech functionality, which delivers responses audibly, enhancing accessibility and inclusivity.

Sr. No.	Paper ID	Title
56	102	Ayushi Pavashiya, Krina Moradiya, Yash Mathkar, Kalpana Mane *A Hybrid Machine Learning and Deep Learning Approach for Diagnosing Gene Associations in Huntington's Disease*

Abstract—Huntington's Disease (HD) is a progressive neu- rodegenerative disorder caused by mutations in the HTT gene. Identifying gene associations in HD is critical for early diagnosis and targeted therapies. This paper presents a dual component solution: a random forest (RF)-based machine learning model for diagnosing gene associations and a Retrieval-Augmented Genera- tion (RAG) model for automated report generation and question answering. The proposed model enhances diagnostic accuracy, supports clinicians in interpreting complex genetic data, and automates the creation of insightful reports, thus improving patient care and enabling data-driven decision-making.

Sr. No.	Paper ID	Title
57	103	Manasi Powar , Sneha Sawant , Advait Parab ,Shourya Mayekar, Priynka Sharma *RIPPLE LINE MAGNET: Electricity Generation from Hybrid Source (Tidal waves + Solar)*

Abstract— This article provides an overview of the design, benefits, risks and environmental impacts of wave power plants. The aim of this initiative is to serve the society without harming the environment and ecosystem. It is based on renewable energy generated from ocean waves. Flaming of fossil fuels causes global warming, and waste generated from nuclear power plants is very dangerous. Accidents at these stations have had a significant impact on people's lives. The potential for generating electricity from ocean waves is enormous. With fossil fuels becoming scarce and prices continuing to rise, wave power plants have low operating costs, allowing them to generate electricity at competitive prices. Traditional hydroelectric power plants require dams, which can be detrimental to ecosystems and biodiversity in the environment. Contrarily, the proposed wave power plant does not require any other harmful structures or reducing installation costs.

This method of extracting electricity from ocean waves is reliable, sustainable, and environmentally friendly. Solar photovoltaic (PV) cells are also integrated into wave energy systems, allowing the power plant to harness the sun's energy. Solar cells tend to be more efficient in cold weather, making them an excellent hybrid energy source alongside Tidal energy.

Sr. No.	Paper ID	Title
58	104	Prathmesh Hemant Walavalkar, Premdeep Vilas Khaire, Kalpesh Haresh Lotankar , Kavita Bani *Autonomous Environment Surveillance Robot*

Abstract- This paper presents the design and development of an autonomous surveillance robot leveraging advanced technologies such as Simultaneous Localization and Mapping (SLAM) and Light Detection and Ranging (LiDAR). The robot's architecture is centered around a Raspberry Pi, chosen for its versatility and cost-effectiveness, integrating multiple hardware components, including high-resolution sensors and fire detection modules, derived from earlier robotics projects. This intelligent system is engineered to autonomously navigate predefined and dynamic environments, identify anomalies, and enhance security operations through continuous monitoring and data analysis. The proposed robot bridges the gap between traditional, static surveillance systems and modern autonomous solutions by offering enhanced mobility, adaptability, and precision. The combination of SLAM and LiDAR enables the robot to construct real-time environmental maps with remarkable accuracy, identify potential obstacles, and execute reliable path-planning algorithms, even in complex scenarios. These features make the system robust, adaptable, and highly reliable for real-world applications across industrial, commercial, and residential sectors.Additionally, the robot incorporates advanced fire detection sensors, adding a critical safety layer that extends its utility beyond surveillance to proactive hazard detection and response. This paper highlights the development process, system architecture, and the results of extensive testing in simulated and real-world environments. The integration of modular hardware and software components ensures a scalable design, paving the way for widespread adoption in diverse security scenarios. By offering a holistic, cost-effective solution to modern surveillance challenges, this autonomous robot sets a new benchmark for intelligent security systems.

Sr. No.	Paper ID	Title
59	108	Snehal Ashok Mahajan, Snehal Gholap, Mayuri Lohar, Kalpana Mane ***Deep Learning for Stock Market Prediction (LSTM)***

Abstract—Predicting stock prices is a difficult and intricate undertaking that has attracted a lot of attention lately. In this study, we use a dataset from Google Finance to present a novel technique to stock price prediction. In order to predict future stock prices, our approach makes use of a deep learning model based on an LSTM network that has been trained using past stock price data. We test the model on a test set of stock price data and show that its prediction accuracy is higher than that of other baseline models. The outcomes show that our method has a great chance of becoming a useful tool for stock price prediction in practical settings.

Sr. No.	Paper ID	Title
60	109	Snehal B. Gholap, Snehal Mahajan, Kalpana Mane, Mayuri Lohar ***Drone Technology***

Abstract —The construction of the drone, which includes the frame, propeller, engine, power system, electronic control, and communication system as its most crucial parts, is covered first in this article about drones and their applications. One kind of aircraft is a drone. An unmanned aerial vehicle (UAV) is another name for a drone. The term "unmanned" refers to the fact that a drone can be operated without a pilot present. It is generally anticipated that the prevalence of drones will rise dramatically over the coming years due to their popularity and the convenience and affordability of purchasing many of them. The primary risk of drone use is the possibility of a drone dwindling from a high altitude, which can be brought on a dead battery.

Sr. No.	Paper ID	Title
61	110	Mayuri Lohar, Kalpana Mane, Snehal Mahajan, Snehal Gholap *Electric Vehicle Adoption and Its Impact on Smart Cities*

Abstract —Electric vehicle (EV) adoption is transforming urban mobility and is a key factor in the creation of smart cities. EVs provide a sustainable substitute for conventional fossil fuel-powered automobiles, helping to lower greenhouse gas emissions while also improving air quality and reducing noise pollution. The extensive usage of EVs fits in perfectly with smart cities' priorities of sustainability, energy efficiency, and technology integration.

This paper explores the multifaceted impact of EV adoption on smart cities, focusing on key areas such as infrastructure, energy management, and urban planning. It emphasizes how EV charging networks can be integrated into intelligent energy grids to facilitate effective energy distribution and encourage the use of renewable energy sources. Additionally, it examines the role of data-driven solutions, such as IoT-enabled sensors and real-time analytics, in optimizing EV usage and traffic management.

The paper also addresses challenges, including the need for scalable charging infrastructure, equitable access to EV technology, and the mitigation of increased energy demand. The switch to EVs can hasten the development of smart cities into resilient, connected, and sustainable urban settings by encouraging cooperation between communities, businesses, and governments. According to this study, the adoption of EVs is a revolutionary force that is influencing urban living in the future rather than only being a technological advancement.

Sr. No.	Paper ID	Title
62	112	Ninad Nitin Chaware, Sahil Gawli, Rohan Ingle, Deepali Maste *Warmth.AI: Addressing Elderly Loneliness through AI driven Voice Emulation*

Abstract —Loneliness in the elderly is a growing social challenge that has a significant impact on mental and physical health. Warmth.AI is an innovative solution that uses artificial intelligence to address this problem by imitating the voices of loved ones, providing a personalized and comfortable interaction. This article presents the design and implementation of Warmth.AI, highlighting its key components, including text- to-speech powered by the Eleven Labs API and a user-friendly interface. for seamless interaction. Combining cutting-edge voice emulation with user-centred design principles, Warmth.AI aims to provide emotional support to older adults, reducing their feelings of isolation. We discuss the technical methodology behind the system, the ethical considerations in creating emotionally responsive AI tools, and the potential for scalability across languages and cultures. Preliminary results suggest that these AI-based solutions can promote meaningful connections, offering a new approach to mental health and well- being. Warmth.AI represents a breakthrough in using AI for the good of society, connecting technological innovation with compassionate care.

Sr. No.	Paper ID	Title
63	113	Ragini Sharma, Aryan Patel, Aman Pandey, Amit Mishra *Optimizing Aquaculture Using Custom Vgg-Inspired Deep Cnn*

		Model

Abstract- Aquaculture is one of the major sources of food production and quality is one of the essentials when it comes to food. Disease management is one of the major concerns when it comes to fish rearing, as outbreaks can cause significant economic losses and affect the overall marine ecosystem. Effective disease control is critical for maintaining fish health, improving productivity, and meeting the growing demand for seafood worldwide. Traditional methods for fish disease management often fail due to being time consuming, Labor-intensive and lack of scalability on larger farms. These limitations call for the adoption of advanced technology that can be used to enhance the efficiency of disease detection. Recent development of technologies like Artificial Intelligence (AI) and Machine Learning (ML) has given rise to methods like convolutional neural network (CNN) which is great at image classification. The aim of this project is to build a custom VGG-Inspired Deep CNN image classification model, a type of CNN that is used for deep learning purpose, to classify various species of fishes from diseased to healthy, reducing diagnostic time and enabling timely interventions. By leveraging the use of machine learning, this project aims to bridge the gap between technology and aquaculture, promoting a sustainable practice in the industry.

Sr. No.	Paper ID	Title
64	114	Parth Jain, Anikesh Kulal, Khuzaima Ansari, Aryan Jadhav, Divya Gajangi, ***RAG Based System of Enhanced Information Retrieval of Browsing Activities***

Abstract—An innovative activity monitoring system has been created to improve productivity and facilitate efficient information retrieval by utilizing retrieved-augmented generation (RAG) techniques and advanced large language models (LLM). The system continuously records user activity through periodic screenshots, generates meaningful descriptions of images using image captioning models, and enhances contextual understanding by analyzing browser history. Its main capabilities include real- time screenshot processing, metadata collection, and the creation of a structured activity timeline, allowing users to access and retrieve information with precision and speed. By integrating domain-specific knowledge with RAG and LLM capabilities, the system overcomes challenges such as processing large-scale visual data, optimizing image analysis, and managing extensive datasets. Unlike traditional searching methods limited to times- stamps, titles, or website names, this system empowers users to search their browsing activities through vague descriptions or by asking specific questions. This approach significantly enhances the flexibility and precision of information retrieval, enabling users to locate and explore their browsing history with greater ease. By reducing cognitive effort and offering actionable insights, the system provides a context-aware and intuitive solution for activity monitoring and information management.

	Paper ID	Title
65	115	Vaishali Vivek kumar Bodade,Jyoti S. More ***Blockchain based Decentralised Social Media Platform***

Abstract— A social networking platform called Decentragram uses blockchain technology to support the design of applications and smart contracts. It is produced via blockchain platforms and protocols. The social media creation process is facilitated by blockchain technologies. Decentralised applications like Ethereum, Steem, and Stellar are just a few examples. Decentralisation refers to the absence of a single proprietary authority managing all the data in blockchain social media networks. Instead, the information is evenly disseminated and kept on servers at each network node. Users that create profiles on integrated social platforms must link their real-world identities, such as their electronic mail addresses or contact details. Moreover, these networks usually use encrypted public keys for authentication of accounts rather than trusting on just one company to secure user data. While this offers benefits in terms of data security, there are shortcomings as well. Blockchain-based social media systems provide end-to-end encryptions for every contact while still supporting social networking, content sharing, and even blogging. This decentralised social media offers an additional solution for data security and privacy.

Sr. No.	Paper ID	Title
66	116	Shobha Satish Lolge, Saurabh Deshmukh ***Enhanced Bird Species Identification Using Enhanced Bird Species Identification Using Mel-Frequency Cepstral Coefficients and Spectral Features with Support Vector Machines and Feedforward Neural Networks***

Abstract - Bird species identification through audio analysis plays a crucial role in ecological research and biodiversity conservation. This study presents a machine learning-based approach leveraging audio descriptors to classify and identify bird species using recordings from the Xeno-canto dataset. Key audio features, including Mel-frequency cepstral coefficients (MFCCs), spectral features, and timbral characteristics, are extracted to capture the acoustic signatures of bird vocalizations.

The research focuses on a comparative evaluation of two classifiers: Support Vector Machines (SVM) and Feedforward Backpropagation Networks (FBN). Performance metrics such as accuracy, precision, recall, and F1-score are used to assess the classification effectiveness, while confusion matrices and Receiver Operating Characteristic (ROC) curves provide insights into model reliability and discriminative power.

Results demonstrate the strengths of SVM in handling high-dimensional feature spaces and the adaptability of FBN in capturing non-linear relationships within the data. This comparative analysis highlights the potential of audio signal processing combined with machine learning to develop efficient, scalable systems for bird species identification. The findings contribute to advancing automated bioacoustic monitoring and ecological conservation efforts.

Sr. No.	Paper ID	Title
67	117	Sujata Khedkar, Ketaki Dhananjay Nalawade, Tasmiya Sarfaraz Khan, Purtee Santosh Mahajan, Srushti Satish Sambare ***AI driven Investment Insights Using ESG Prediction Models***

Abstract— In order to develop a tried-and-true investment strategy that takes advantage of the correlation between environmental, social, and governance (ESG) factors and financial success,

this study looks at the statistical influence of ESG concerns on economic investment. As mandated reporting requirements are implemented and investors take sustainability into account when making investment choices, there is an increasing demand for transparent and reliable ESG ratings. The goal of this paper is to examine several approaches that may be applied to forecast the ESG ratings of businesses.

Sr. No.	Paper ID	Title
68	118	Juhi Janjua, Archana Patankar, Nabanita Mandal, Darakhshan Khan, Aradhya Talan ***Enhancing Image Classification using Transfer Learning with AlexNet and Ensemble Model***

Abstract - Image classification is a fundamental task in computer vision with broad applications. Accurate image classification is essential to the development of many industries, including manufacturing, agriculture, autonomous systems, healthcare, and more. In the realm of machine learning, ensemble methods have garnered attention for their capability to boost the efficacy of model predictions. This is a research paper exploring the head-to-head performance of the stacking ensemble technique and the standalone AlexNet architecture in image classification using the Fashion- MNIST dataset. Preliminary results are astonishing and reveal that the ensemble method can outperform even when trained on a fraction of the epochs set for AlexNet. The results highlight the resilience of ensemble approaches, especially stacking, which opens a great deal of scope for exploiting the combined strength of different architectures. This work, apart from illuminating the subtle benefits of ensemble methods, paves the way for further research aimed at optimizing and exploiting these methods for complex classification problems.

Sr. No.	Paper ID	Title
69	120	Manimala Mahato, Aagam Sheth, Shubham Shah, Priyanshi Doshi, ***Content-Based Recommendation Model for Intelligent Resume Screening***

Abstract - The digital transformation of recruitment practices has created new challenges in candidate selection processes. Human resource departments face the daunting task of processing vast quantities of unstructured resume data submitted through online platforms. This research presents an innovative automated system that streamlines the candidate evaluation process by implementing a Content-based Recommendation approach utilizing Cosine similarity metrics. Our framework analyzes the correlation between candidate resumes and specific job requirements, generating quantifiable similarity scores. This automation significantly reduces the manual effort required in resume processing while enhancing the precision of candidate shortlisting. The system's effectiveness was validated through comprehensive testing using authentic recruitment data, demonstrating its practical applicability in modern hiring workflows.

Sr. No.	Paper	Title

	ID	
70	121	Darakhshan Khan, Archana B. Patankar, Juhi Janjua, Nabanita Mandal, Charmi Chaniyara *Time Series AQI Prediction using Sequence-Infused Autoencoders and Hybrid Deep Sequential Networks*

Abstract—Air pollution has emerged as a major international concern due to its hazardous impact on human health and the environment. Real-time AQI prediction becomes pertinent for timely management and safety protection. This study analyses the effectiveness of state-of-the-art deep learning architectures, which include sequence infused autoencoders and hybrid CNN-LSTM networks for three locations across Mumbai city. A feature vector with 21 variables was preprocessed using GAN based network for imputation and anomaly treatment. Models were evaluated using regression metrics such as, RMSE, MAPE and R2 score. Results demonstrate that Bi-LSTM AE and hybrid network has outshined on all metrics, indicating its robustness and generalization ability.

Sr. No.	**Paper ID**	**Title**
71	122	Nabanita Mandal, Tanuja Sarode, Juhi Janjua, Darakhshan Khan *Advanced Model for Dew Point Temperature Prediction: Comparative Insights with ML Algorithms*

Abstract— Dew point temperature is an important climate parameter which directly influences a lot of other climate variables like humidity, temperature and indirectly influences the parameters like heat index and fog formation. A model is proposed which is based on the concept of long short term memory model. It is bi-directional in nature and uses the data in the time series format. It has the ability to remember long sequence of data which can be utilized for predictions. It also has the ability to capture complex pattern in the data. It is observed that this proposed method gives less MAE, RMSE and MSE as compared to traditional machine learning algorithms.

Sr. No.	**Paper ID**	**Title**
72	123	Kiruthika. B, K.S. Raja, Kiruba Balakrishnan, Pinky Steffi Alexander *Heart Disease monitoring system using CNN+LSTM model and Ethical considerations of patients based on NLP and ethical codes*

Abstract– Several ethical issues arise with the potential development of AI (Artificial Intelligence) systems. There is an insufficient number of rules and regulations to tackle any complications that may arise during research effectively. There exists a significant gap in suitable policies and guidelines that adequately confront potential challenges within the research process. It is essential that superintelligent machines are designed to perform benevolent actions rather than malevolent ones as part of the AI advancement process. Natural Language Processing (NLP) is a key AI technology that can evaluate and interpret human language, making it a vital element of intelligent healthcare. Numerous smart healthcare applications have greatly benefited from the integration of Natural Language Processing (NLP). This study proposes a hybrid model combining CNN and LSTM for health monitoring

systems. Our health monitoring system utilizes Natural Language Processing (NLP) for ethical considerations, as it enables machines to understand human language and interact with individuals. According to our results, the proposed method surpasses existing models in both accuracy and performance.

Sr. No.	Paper ID	Title
73	125	Kamlesh K Kumavat, Srinivas J Kolloju,Taufeeque M Khan ,Viraj D Edke, Sowmya Kini Prabhu, *S.N.A.B.B.E.R (Self Navigating Auto Body Balancing Engineered Robot)*

Abstract– The Self-Navigating Auto Body Balancing Engineered Robot (S.N.A.B.B.E.R.) is a smart autonomous robotic bot designed for firefighting and water-based disaster response. Traditional firefighting methods often rely on manual efforts or basic robots, which can struggle in dangerous and unpredictable environments. These methods are slow, risky, and lack the ability to adapt to changing conditions this making them mostly inefficient in couples of use cases. S.N.A.B.B.E.R. addresses these issues by combining advanced robotics, Computer-Vision and self-balancing technology, advanced navigation systems, and efficient fire suppression tools. It uses the on-board camera to detect fire, obstacles, and the presence of life along with SLAM (Simultaneous Localization and Mapping) technology to move accurately in complex areas. The robot's gyroscopic balancing system helps it stay stable on uneven ground, allowing it to work effectively in challenging environments. Unlike older methods, S.N.A.B.B.E.R. operates on its own as well by manual control, reducing the need for human intervention and improving the speed and safety of firefighting. With its ability to detect problems in real-time and adjust its actions, this robot offers a new and reliable way to manage disasters. S.N.A.B.B.E.R. is a major step forward in using technology to make firefighting faster, safer, and more effective.

Sr. No.	Paper ID	Title
74	128	Dhanashree Pannase, Charushila Pawar, Prajakta Pawar, Sandip Zade *From Theory to Practice:Database Normalisation: A Design Approach for Optimizing Data Structure*

Abstract — Normalization is the process of structuring data in a database to remove redundancy and ensure that related data is stored in a coherent and efficient manner. This helps reduce unnecessary storage requirements and organizes the data logically. To achieve this, normalization follows a set of guidelines known as normal forms. These forms focus on eliminating duplicate columns, addressing subsets of data that apply to multiple rows, and ensuring that columns are dependent on the primary key. For example, by normalizing student, class, and professor data through the stages of 1NF, 2NF, and 3NF, we can split the information into multiple tables. This process eliminates redundancy, enhances data integrity, and ensures that the data structure remains consistent and easy to manage.

Sr. No.	Paper ID	Title
75	129	Krishnendu Nair , Sanket Jadhav, Abhijeet Sharma, Dhananjay Pawde,

		Manish Borate
		Geo- exploration analysis and amenities clustering for homeseekers and business

Abstract–For homeseekers and businesses, geo-enriched exploration and amenities clustering could revolutionize the way they discover new places to live. Using K-Means clustering algorithm, we present a machine learning-based solution for grouping amenities. The system can analyze the amenity preferences of the user and show the grouping of the desired amenities within a particular area on the map. The system assists the residents and people relocate by identifying the amenity-rich locations within a particular radius like restaurants, cafes etc. Businesses can establish or expand their business operations, considering factors like customer demographics and amenity clusters. This initiative aims to revolutionize location exploration, enhancing efficiency and accuracy while catering to diverse needs and preferences in various contexts such as real estate and business development.

Sr. No.	Paper ID	Title
76	130	Anuja Gaikwad, Ashwini Gaikwad, Aswathy P, Shaily Goyal *Two level QR Generation for Secure Banking System with Multi-Factor Cloud Authentication Using Blockchain Framework*

Abstract— Bank transaction security is very essential task in today's environment, various attacks has been introduced into the centralized transactional systems. Sometimes much software as a service (SaaS) attack has generated from malicious users, it can harm uses private data as well as transactional data. In this work we propose secure online banking multi Factor authentication system using blockchain Technology. Initially system carried out biometric authentication as well as unique Identification information for secure authorization. Once authentication has done system will retry entire account information from various cloud database service using restful web service API, another two way secure approach has been proposed for OTP based authentication. Whenever any user generates transaction it will recorded into the blockchain in distributed environment. The system deals with open Smart contract, mining as well as open consensus algorithm. To withdraw money, the user must specify the desired withdrawal amount and select the account from which the funds should be debited, such as a savings or current account, from the list of available accounts linked to their profile. It is mandatory to must have some balance into the user's account to complete the transaction in entire blockchain. User can view the balance available in his respective account. According to assumption, system also support as unique identification (UID) number rather than thumbnail for permanently disable peoples. The system also carried out QR code generation and verification for mobile devices and once transaction has done it will store the entire transaction information into the blockchain which will eliminate the frauds as well as enhance the transaction clarity.

Sr. No.	Paper ID	Title
77	131	Nilesh Lotan Shimpi, Snehal Bhelkar *Smart IOT Based Pollution Monitoring System For Air and Water*

The growth of pollution is increasing day by day. Some things can affect the environment and

cause loss in biodegradation. This can be due to rapid economic growth and urbanization. Toxic substances in the environment can be harmful to human health and require special precautions. The model continuously measures water levels and calculates them online to the host computer through the Internet of Things. With internet access, survey data can be obtained from remote locations without the need for easy access. The structure of this analysis model depends on the relationship or interaction between the distribution of the transformed data and the data structure. It works with new ideas using Internet of Things, cloud, air and water computing. This allows the government to monitor air and water pollution in different regions and take precautions. Water pollution is any change in the biological, physical or chemical components of water that ultimately harms any organ.

Sr. No.	Paper ID	Title
78	132	Umair Malim,Ravi Prakash,Rashi Sharma,Sushmita Shukla , *Design and Development of Contextual Framework for Translation And Interpretation of Vedas*

Abstract — "Vedify" is a unique application created to translate the four Vedas from Sanskrit to Hindi, making these ancient scriptures more accessible to today's generation. With the growing disconnect from Sanskrit, many people struggle to understand the wisdom of the Vedas, which hold immense cultural and spiritual significance. Vedify bridges this gap by providing accurate and meaningful translations that preserve the original context and essence of these texts.The application relies on advanced Natural Language Processing (NLP) and Machine Learning (ML) technologies to achieve this. It processes Sanskrit texts using techniques like tokenization and syntactic analysis, while ML models, trained on curated datasets, ensure translations are not just literal but contextually accurate. Tools like Python, TensorFlow, and Hugging Face Transformers power the backend, while a simple and intuitive interface ensures a smooth user experience. Vedify is not just a translation tool—it's a step toward preserving and promoting India's ancient knowledge in a modern, relatable way. By combining cutting-edge technology with cultural heritage, it aims to help more people connect with the timeless teachings of the Vedas. This project highlights how technology can bridge the gap between the past and the present, making ancient wisdom accessible to all.

Sr. No.	Paper ID	Title
79	134	Mihir Dasharath Jadhav, Yash Mathkar, Suyash Baviskar, Kiruthika B *Developing AI-Based Solutions for Threat Detection, Intrusion Prevention, Security Analysis, and Energy Consumption*

Rapid advancements of Artificial Intelligence (AI) technologies have transformed the landscape of institutional security, threat detection and intrusion prevention. This paper explores the development and implementation of AI based solutions for threat detection and intrusion prevention while maintaining optimum energy efficiency. We examine the integration of machine learning algorithms and IoT devices to create intelligent systems capable of real-time monitoring and providing adaptive responses to security threats. We also address the challenges associated with these technologies and propose a framework for future research that emphasizes the need for improved integration of existing systems and user centric designs with energy efficiency at their forefront to minimize their impact on the environment as well as their

financial footprint, enabling for a wider reach. Our findings aim to contribute to the ongoing discourse on sustainable physical security practices while providing actionable insights for stakeholders in this field.

Sr. No.	Paper ID	Title
80	135	Shubh Sandeep Darji, Shubh Darji, Krushna Prajapati, Moin Khan, Kavita Bani ***Track My Presence***

Abstract— This paper introduces "NBA Software," a comprehensive attendance management system designed to automate and streamline attendance tracking, student information management, and report generation for educational institutions. Developed using Flutter and Dart for cross-platform compatibility, and integrated with Firebase for secure, real-time data synchronization, the system addresses the limitations of traditional manual methods by offering a scalable and efficient solution. Key features include classroom creation, real-time attendance tracking, Course Outcome (CO) and Program Outcome (PO) mapping, and assessment marks calculation. To enhance user experience and administrative efficiency, the system leverages advanced data visualization and Excel libraries for automated report generation, providing actionable insights into attendance trends and student performance. By integrating modern technologies with an intuitive interface, "NBA Software" reduces manual errors, simplifies administrative tasks, and fosters improved communication between students and faculty. This paper details the system architecture, development methodology, and results of extensive testing, showcasing the potential of "NBA Software" to revolutionize attendance and performance management in academic settings.

Sr. No.	Paper ID	Title
81	137	Sowmya Prabhu, Gauri Vaidhya ***PID controller for a process that doubles in size using the Coefficient Diagram Method (CDM)***

Abstract- Because of their inherent reaction qualities, double integrating processes are difficult to regulate. The Ball & Beam system, a common benchmark piece of laboratory equipment, is an example of a double-integrating process with strong nonlinear unstable properties that offers important insights into the nature of response. A PID controller design is one method that is frequently used in process control to stabilize the closed-loop control system. However, there aren't many methods for a double-integrating process where a PID can be easily applied. One such strategy that was developed using algebraic equations is the Coefficient Diagram Method (CDM). It is rather easy to create a controller that is reliable enough to stabilize the system and enhance time domain response characteristics by integrating CDM. This straightforward but unique technique is applied to the Ball & Beam system in order to analyze the system dynamics and determine a CDM-PID control structure. The Euler-Lagrange approach is used to create the mathematical model of the benchmark laboratory system, and the control algorithm is then applied to it. Both the setpoint tracking and disturbance rejection capabilities of the system are tested. In order to compare the outcomes and assess the controller's performance, the Ziegler-Nichols conventional PID tuning approach is also used. It is demonstrated that in terms of stability and steady-state error reduction, the CDM-PID controller exhibits superior response

characteristics.

Sr. No.	Paper ID	Title
82	138	Arham Mehta, Shubham Lad, Vidhi Makvana,Devya Patel, Kavita Bani *4 Factor Authentication*

This paper proposes an advanced multi-factor authentication (MFA) framework designed to address the growing concerns over security breaches associated with password-based systems. With the increasing demand for robust mechanisms to safeguard sensitive data and critical resources, the proposed solution introduces a four-step authentication process. The system incorporates three fundamental authentication principles: knowledge (something the user knows), possession (something the user has), and biometrics (something the user is). By combining these factors, the approach offers a higher level of security compared to traditional password-based methods. This multi-layered strategy enhances access control, minimizes the risk of unauthorized entry, and equips organizations with stronger measures to protect their vital assets against cyber threats.

Sr. No.	Paper ID	Title
83	140	Sashidhar.R, Natasha N, Rujwal K, Ruchitha Y, Vishal D *Optimizing EMG Signal Analysis with Advanced Machine Learning Techniques*

Abstract—In this paper, electro-myography is used to study human muscle movement and bionic hands. It comprises complicated signal processing, involving acquisition, pre-processing, feature extraction, and classification. A new feature extraction method was proposed for the study using correlation heat maps, which, in conjunction with PCA and SVM feature elimination, showed superior classification accuracy compared to traditional methods. The study investigated the possibility of using a Decision Tree algorithm to classify electromyography signals on feature extraction with correlation heat maps. Compared to traditional techniques, decision trees demonstrated better accuracy in classification. The findings have implications for describing its effectiveness in enhancing the performance of both EMG signal analysis and gesture recognition. The Decision Tree classifier achieved a training accuracy of 94 percent with 6 percent of error, using features extracted with the Correlation Heat Map method. In comparison, the model trained with KNN-extracted features achieved a training accuracy of 75.4 percent.

Sr. No.	Paper ID	Title
84	141	Sail Morye,Harsh Bhoraut ,Simran Morye,Soheb Mujawar,Natasha Naik *Blood Connects To All*

Abstract–This project presents the development of a user-friendly blood donation mobile application designed to connect blood donors with recipients in need, streamlining the donation process while enhancing accessibility and convenience. The app provides a platform where users can easily register as donors, find nearby donation centers, schedule appointments, and

receive blood drives and emergencies notifications. It also allows recipients or healthcare providers to request specific blood types and connect with available donors in real time. Features like geolocation services, donor history tracking, health eligibility checks, and integration with health monitoring tools are incorporated to ensure a safe and efficient donation process. The app aims to foster community engagement, promote regular donations, and address the global need for a reliable blood supply, improving health outcomes through technology. For recipients and healthcare providers, the app offers real-time access to available donors within the local area, enabling faster and more effective matching of blood types during emergencies. Recipients or medical professionals can create requests for specific blood types, and the app instantly alerts compatible donors. The platform includes built-in health eligibility checks, where donors can track their donation history, monitor their health status, and receive reminders when they are eligible to donate again. This feature ensures that donations meet medical safety standards and that donors remain in optimal health before contributing. Incorporating principles of inclusive design, the app is built to be accessible to users of varying abilities, ensuring a wide range of people can participate in the blood donation process

Sr. No.	Paper ID	Title
85	142	Shamit Shetty ,Sidhant Shetty , Om Vishwakarma, Sakthivel Nadar , Kiruthika B *Leveraging NLP for Adaptive NPC Development and Procedural Content Generation*

Abstract-This paper focuses on the use of Natural Language Processing (NLP) to create adaptive Non-Player Characters (NPCs) that improve player interaction in role-playing games. These NPCs can interpret and respond to player input in real-time, allowing for more engaging and dynamic interactions. To evaluate the advantages of NLP, comparative study is conducted by creating a counterpart using a behavior tree model, a more traditional method for NPC development. The integration of adaptive NPC behavior with procedurally generated narratives enhances the depth and responsiveness of interactive gameplay. The study also examines automated storytelling mechanisms that create context-sensitive narratives, further enriching the gaming experience. By combining adaptive NPCs with dynamic story generation, this research highlights the potential of modern AI technologies to improve the interactivity and personalization of gaming environments.

Sr. No.	Paper ID	Title
86	145	Kiruthika B., Raja K S, Kiruba Balakrishnan , Kavita Bani *Analyzing Network Intrusion Detection System based on machine ning algorithms*

Abstract– New security issues have arisen as billions of smart devices are connected via the Internet of Things (IoT). The proliferation of cyberattacks has rendered the privacy of network traffic an urgent issue over the past decade. The intrusion detection system (IDS) is the most promising method for identifying anomalous network behavior patterns and preventing hostile intrusions. Despite the tremendous efforts of the researchers, IDS continues to experience challenges in identifying new intrusions and enhancing detection accuracy while simultaneously reducing false alarm rates. Intrusion detection systems that are based on

machine learning (ML) have recently been implemented as a viable method of identifying network breaches. We examine the efficacy of several machine learning techniques, such in the detection of network intrusions. This part is devoted to the evaluation of these techniques.

Sr. No.	Paper ID	Title
87	146	Pinky Steffi Alexander, P. N. Nemade, Narendhar Chandrasekar, Abhilasha Saini, Kiruthika B ***Carbon Quantum Dots: Synthesis, Properties and Applications- A Future Perspective***

Abstract —Traditionally fragile carbon nanoparticles (less than 10 nm in size) with a variety of special features, carbon quantum dots (CQDs, C-dots, or CDs) have been widely used in an increasing number of disciplines in recent years. With an emphasis on their synthetic techniques, size control, modification tactics, photoelectric capabilities, luminous mechanism, and applications in medical science, catalytic processes, and sensor concerns, Inherent many uses are made possible by these basic qualities, which enable accurate tweaking of their optical and electrical characteristics. Together with their water the ability to dissolve, biocompatibility, and different surface functional categories, CQDs' photoluminescence makes them essential elements in the domains of materials science, nanotechnology, and medicine. This article so emphasizes the wide range of applications in which CQDs have contributed significantly in the twenty-first century. we outline the latest developments in the area of CQDs in this section of the paper.

Sr. No.	Paper ID	Title
88	150	Sakthibala Danapal, Ranjith Kumar. K ***Revolutionizing Induction Motor Drive Efficiency through Advanced Soft Computing Techniques***

Abstract- This paper introduces a novel approach for minimizing copper and iron losses in variable-speed induction motor drives by optimizing efficiency using a field-oriented control (FOC) model. The method integrates fuzzy model identification with Particle Swarm Optimization (PSO) to adjust the magnetizing current relative to the torque current. Simulated in MATLAB 7.6, the results show that the fuzzy-PSO approach outperforms other soft computing techniques in efficiency optimization. This strategy significantly reduces both copper and iron losses.

Sr. No.	Paper ID	Title
89	151	Renuka Nagpure, Divya Gajangi, Dhanashree Bhanushali ***Enhancing Security and Privacy in Book Exchanges with Blockchain Technology***

Abstract-Trust and transparency are paramount in the digital era. The process of exchanging books with people you meet on the internet always carries the risk of repudiation of origin. In a digital age where trust and transparency are at a premium, blockchain emerges as a game-changer. Blockchain provides a decentralized, tamper-proof ledger which can help to

foster trust by creating a secure and transparent ecosystem. With blockchain, every book exchange becomes a verifiable transaction, recorded permanently on the ledger. Users can confidently trade books, knowing that ownership history is beyond dispute. Smart contracts are self - executing agreements that automate and enforce book exchanges. By eliminating intermediaries and establishing a trust layer, smart contracts play a pivotal role in enhancing security, accountability, and efficiency within our book exchange platform. To facilitate the development and testing of these smart contracts, we've integrated Ganache, a local Ethereum blockchain emulator. Ganache streamlines the development process by providing a lightweight and customizable local blockchain environment, ensuring that our platform's smart contracts function seamlessly. The Truffle Suite complements our local blockchain network development by offering a suite of tools that simplifies smart contract development and deployment. Our project aims to provide users with secure, cost-effective, and transparent book exchanges by harnessing blockchain's transformative power and utilizing tools like Ganache and Truffle Suite.

Sr. No.	Paper ID	Title
90	152	Harshita Haridas Nayak, Shreya Santosh Parsekar, Anvisha Nilesh Vartak, Akshata Anant Zore ***MediConnect-Doctor Appointment system and Health Diagnosis System using Machine Learning***

Abstract-MediConnect is a website that aims to reduce the gap between patients and doctors by providing patients with appointment booking and diagnosis tools. The system allows patients to book an appointment with the doctor and receive a preliminary diagnosis based on a machine learning model trained. MediConnect enables doctors to approve appointments and access patient's basic information. Doctors can view patient information from a user-friendly interface. MediConnect uses encryption to ensure secure data storage, becoming a solution for protecting user data. The platform's capabilities go beyond appointment management to include diagnostics that help users identify treatable conditions based on symptoms, allowing for faster access to treatment and improved quality of medical consultations. Doctors can manage appointments and patient information from a simple interface, while administrators can manage users.

Sr. No.	Paper ID	Title
91	153	Prarthana Sawant, Purva Sawant, Akanksha Singh, Sakshi Tawde, Priti Mishra ***Diet Recommendation System Using ML***

Abstract-The Diet Recommendation System Using Machine Learning is an innovative solution designed to help users develop personalized diet plans catering to their health goals and nutritional requirements. The system leverages machine learning algorithms to process user inputs such as age, height, weight, gender, and specific health objectives (e.g., weight loss, maintenance, or gain). The core objective is to offer a tailored diet recommendation that enhances the user's overall well-being by promoting healthier eating habits based on real-time, up-to-date nutritional data. This system addresses these issues by offering an affordable, accessible solution that customizes diet plans according to users's unique requirements.

Sr. No.	Paper ID	Title
92	159	Vasundhra Gupta, Aman Sharma *Energy Audit and Energy Conservation for a Hostel of an Engineering Institute*

Abstract— The adequate and right kind of energy is necessary for the sustainable development of human society. Due to ever increasing rise in demand we need to take necessary steps to bridge the gap between supply and demand. The paper focuses on the process of energy audit carried out in an academic institution in order to suggest various conservative measures to make energy consumption more economical. Therefore, Energy Audit in hostel and mess of NIT Srinagar has been conducted. Thus in this paper, efforts have been carried out to augment energy use awareness and encourage energy conservation practices by a thorough analysis of the consumption and wastage of energy through the appliances. The detailed study carried out by us in this paper helped to bring out suggestive measures for cost mitigation, reduction of environmental pollution and monitoring demand supply gap.

Sr. No.	Paper ID	Title
93	160	Shaily Goyal, Anuja Gaikwad, Aswathy S, Ashwini Gaikwad *Federated Learning for Privacy - Preserving Machine Learning*

Abstract—Federated Learning (FL) is a decentralized machine learning framework that allows multiple clients (e.g., smart- phones, IoT devices, or edge nodes) to collaboratively train a shared model while keeping their local data private. This decentralized approach mitigates the privacy concerns that arise in traditional centralized machine learning, where sensitive data must be aggregated on a central server. [8] This paper explores the fundamental principles of Federated Learning, its architecture, challenges, and applications, with a particular focus on privacy-preserving techniques. We examine key advances in the field, such as model synchronization, communication efficiency, and privacy-enhancing mechanisms like differential privacy and secure aggregation. By enabling data to remain localized on devices, FL provides a promising solution for privacy-sensitive applications in healthcare, finance, and IoT.

Sr. No.	Paper ID	Title
94	162	Pranali Prabhakar Bhusare, Shweta Sharma, Bhavna Arora *A Comprehensive Survey on Deep Learning Techniques for Video Captioning*

Abstract— Video captioning, the process of generating natural language descriptions for video content, has seen significant advancements due to the integration of deep learning techniques. This paper provides a comprehensive survey of deep learning approaches for video captioning, focusing on research published from 2020 to 2024. We explore various models and methodologies, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Transformers, and attention mechanisms. The survey also covers multimodal

approaches that leverage both visual and textual data, as well as recent innovations in self-supervised learning and generative models. By analyzing the strengths and limitations of each technique, we identify key trends and challenges in the field. Furthermore, we discuss benchmark datasets, evaluation metrics, and applications of video captioning in areas such as video retrieval, accessibility, and content creation. This survey aims to provide researchers and practitioners with a detailed understanding of the current state of the art in video captioning, highlighting potential directions for future research and development.

Sr. No.	Paper ID	Title
95	165	Divya Gajangi, Renuka Nagpure, Dhanashree Bhanushali, Snehal Andhare ***Optimizing User Satisfaction through WUM-based Online Recommendation Systems Enhanced by NLP Technology***

Abstract - The rapid development of the World Wide Web has resulted in issues with information overload. Web Usage Mining (WUM) is a new application area that integrates analysis, pattern recognition, and data preprocessing. Web server logs are used by WUM to extract web navigational patterns, however semantic information is frequently left out. When user preferences are not known, recommendation lists can be generated using natural language processing (NLP) approaches to increase accuracy. NLP can create vector representations of books, determine the optimal presentation, and parse user questions. For keyword based search and tailored recommendations, this strategy can be combined with recommendation algorithms. Improving online user support is the aim.

Sr. No.	Paper ID	Title
96	166	Ashwini Gaikwad, Anuja Gaikwad, Shaily Goyal, Aswathy P ***Leveraging Artificial Intelligence Tools for Enhanced Learning Experiences: Opportunities and Challenges***

Abstract—Artificial Intelligence (AI) has the potential to significantly enhance learning experiences by providing personalized learning paths, intelligent tutoring systems, and data-driven insights. AI tools such as IBM Watson, Knewton, Coursera's AI systems, and Squirrel AI are revolutionizing education by adapt- ing to individual students' learning needs. This paper explores how AI tools (other than Google Suite) can optimize education while addressing the opportunities and challenges posed by their implementation. By analyzing data from case studies, surveys, and experimental results, this paper compares the effectiveness of different AI tools based on student performance, engagement, and satisfaction. Results from case studies and statistical analyses are provided, showcasing how personalized learning through AI can lead to improvements in student outcomes. However, the research also highlights the challenges, such as data privacy concerns, integration difficulties, and the need for educator training. The paper concludes by offering recommendations to maximize the potential of AI in education.

Sr. No.	Paper ID	Title

Sr. No.	Paper ID	Title
97	167	Bhushan Sonawane, P.N.Nemade, PriyankaBadan, Vanshika Singh *Corrosion of inorganic material in Industrial application*

Abstract —The degradation of inorganic materials due to corrosion presents significant challenges in industrial sectors, including petrochemicals, nuclear power, desalination, and aerospace. This paper reviews corrosion mechanisms affecting inorganic materials and highlights mitigation strategies such as material selection, protective coatings, and monitoring technologies. Future directions emphasize innovative approaches like nanotechnology and smart materials to address corrosion challenges effectively.

Sr. No.	Paper ID	Title
98	168	Bhavna Arora, Shweta Sharma, Pranali Bhusare, Nileema Pathak *Big Data Analysis in Air Traffic Control*

ABSTRACT–The growth in international air visitors affords severe demanding situations for conventional Air Traffic Control (ATC) systems, specifically in dealing with congestion, lowering delays, and ensuring basic safety. With the incorporation of Big Data Analytics (BDA), ATC structures are poised to convert how airspace is controlled, allowing the processing of vast record streams in real time. These records sources—starting from plane sensors, radar systems, satellite TV for PC communications, and weather forecasting—provide comprehensive insights that, while included, provide actionable solutions to operational inefficiencies. This paper thoroughly examines the software of BDA in ATC, discussing its ability to optimize site visitors' glide, beautify protection, and help decision-making through predictive analytics and getting to know. It additionally explores real-international implementations, specializing in Long Short-Term Memory (LSTM) networks and Extreme Learning Machines (ELM), and addresses fullsize challenges, including information integration, protection issues, and the prevailing ability gaps within the aviation industry. Finally, future developments, especially the evolving position of Artificial Intelligence (AI) in airspace control, are examined in detail.

Sr. No.	Paper ID	Title
99	169	Shweta Sharma, Pranali Bhusare, Bhavna Arora, Nileema Pathak *Image classification using Deep learning*

Abstract–Image classification remains a core challenge in the fields of image processing, computer vision, and m/c learning. This study investigates application of deep learning techniques for image classification using the AlexNet architecture, which leverages convolutional neural networks. To conduct the experiments, four sample images from the ImageNet dataset were selected and subjected to classification tasks. These images were modified by cropping into various regions, and the classification performance was evaluated on these altered versions. The results highlight the effectiveness of the AlexNet model in performing image classification with high accuracy, showcasing the potential of deep learning approaches in this domain.

Sr. No.	Paper ID	Title

Sr. No.	Paper ID	Title
100	171	Gauri A. Atre, Ashwini Modi, Ashwini Kudtarkar, Kamaljit Kaur *The Foundations and Latest Advancements in graph coloring*

Abstract — In today's world, graph theory has a wide range of Applications across various fields such as data science,operations research, computer science, and more. This paper provides an overview of crucial generalities in graph coloring,pressing its practical operations in real-world problems, including Academic and Test scheduling, register allocation in compilers,and frequency assignment in telecommunications etc. The focus of this paper is on working the class scheduling problem, as presented in the book *Applied Combinatorics* by Mitchell T.Keller and William T. Trotter

Sr. No.	Paper ID	Title
101	174	Ritu Sharma, Rajendra Mahajan, Balaji Shinde, Shobha D'Mello *Timeless Strategies: Applying Chanakya's Arthashastra to Modern Governance and Leadership Track : Science, Technology and Society*

Abstract-This paper explores the enduring significance of Chanakya's Arthashastra in relation to modern management principles, particularly in the areas of leadership, strategy, governance, ethics, and crisis management. Although originally crafted for rulers, Chanakya's teachings align closely with contemporary management frameworks, offering practical insights for today's business leaders. His focus on transformational and servant leadership highlights the importance of ethical, empathetic, and adaptive leadership. Likewise, his emphasis on strategic foresight and meticulous planning parallels modern methodologies such as SWOT analysis. Chanakya's principles on governance stress accountability, transparency, and delegation, reflecting the pillars of modern corporate governance. His pragmatic yet ethical stance on decision-making underscores the importance of values in business ethics and corporate social responsibility. Additionally, his foresight-driven crisis management strategies find parallels in modern risk management practices. The Tata Group is presented as a case study, demonstrating the practical application of Chanakya's principles in handling the 2008 financial crisis and challenges surrounding the Tata Nano project. The group's adaptability, ethical governance, and strategic foresight illustrate how Chanakya's teachings can guide organizations in navigating complex challenges and achieving long-term success. The findings highlight the enduring wisdom of the Arthashastra and its profound influence on modern management practices, offering timeless lessons for leadership, strategy, and governance in today's dynamic business environment. Keywords- leadership, strategy, governance, business ethics, and crisis management.

Sr. No.	Paper ID	Title
102	175	Garima Gurjar, Priyanka Tripathi *Review on Hybrid Electric Vehicle and its optimization using MPPT Algorithms*

Abstract — With rising oil prices and growing concern for the environment, cleaner and more compatible energy solutions are needed. Current transportation provides a great deal of energy consumption and pollutant emissions. The combined effect of the driving forces of an IC engine and electric motor in a hybrid vehicle is examined and reviewed here. As per structural

design with module of HEV such as the motor, engine, battery, bi-directional converter and maximum power point tracker (MPPT). This paper shows a comprehensive review of the main components used in HEV, such as their structural designs with pros and cons. Hybrid electric vehicles (HEV) are in trend for their capability to attain performance relative to gasoline vehicle. Significantly gives less emissions and enhanced efficiency in terms of fuel consumption

Sr. No.	Paper ID	Title
103	177	Pragya Jain, Ashweni Kumar Jain *Performance Of Multilevel Inverter With Boost Converter*

Abstract —The most economic and appropriate inverters for high and medium power application are multilevel inverters (MLI). The overall harmonic distortion is decreased by these inverters. The primary problem with these multilevel inverters is the overuse of switches, which adds in-system losses, circuit complexity, size, cost, and other factors. To overcome this difficulty, this paper proposes a three-phase, five-level cascaded H-bridge inverter with a boost converter. The new cascaded multilayer inverter with six switches is allowed in the suggested technique to reduce loss, save money, and enhance voltage stability. The modalities of operation of this unique topology are also defined to verify its detailed operation. The input side of this design has a boost converter, which reduces overall harmonic distortion while increasing the basic output voltage. Compared to current topologies, the suggested topology requires fewer switching devices. Finally, the design processes and MATLAB/Simulink simulation results of the suggested strategy are presented in this work.

Sr. No.	Paper ID	Title
104	179	Pranoti Nage , Rutuja Lubal, Sanskriti Mahadik , Tanvi Mestry *CycleSense: Revolutionizing Women's & Health through Intelligent Digital Solutions*

Abstract-CycleSense is an innovative digital platform aimed at improving women's reproductive health by delivering precise menstrual cycle tracking, symptom monitoring, and personalized health recommendations. Prioritizing accessibility and user-focused design, the platform employs advanced machine learning techniques to process user data and provide actionable insights. Setting itself apart from conventional tracking tools, CycleSense incorporates tailored dietary and lifestyle guidance to support overall well-being. With an intuitive interface and educational resources, it seeks to enhance health literacy and empower users to make informed reproductive health decisions. The system demonstrates high reliability, achieving 93% accuracy in menstrual cycle predictions and 85% in ovulation period forecasts. User feedback highlights a 90% satisfaction rate, reflecting its positive impact on health awareness and user engagement. This paper explores the design methodology, core features, and user engagement metrics of CycleSense while evaluating its overall performance.

Sr. No.	Paper ID	Title
105	180	Rajendra Mahajan, Balaji Shinde, Shobha D'mello, Ritu Sharma *Bridging Tradition and Innovation: Legacy of Indian Scientists and*

		Nobel Laureates in Research through the Lens of the Indian Knowledge System

Abstract — The rich legacy of Indian scientists and Nobel Laureates embodies a profound synergy between the timeless wisdom of the Indian Knowledge System and modern scientific innovation. This paper explores how the contributions of these luminaries have shaped global research paradigms, bridging tradition and innovation. Drawing from the foundational principles of the Indian Knowledge System—rooted in holistic thinking, interdisciplinary approaches, and ethical introspection—this study highlights the impact of pioneering figures. Their work not only advanced their respective fields but also underscored the universal applicability of India's intellectual heritage. By examining case studies and breakthroughs across disciplines, the paper illuminates how these scientists integrated indigenous knowledge with contemporary science to inspire transformative solutions. The analysis further delves into the global relevance of this integration in addressing contemporary challenges such as sustainability, healthcare, and education. Ultimately, the paper emphasizes how these contributions not only enriched specific fields but also fostered interdisciplinary approaches and ethical considerations in research, inspiring solutions to contemporary global challenges

Sr. No.	Paper ID	Title
106	181	Ankit H. Deogharkar, Bhavin Shah, Jyoti Mali , Mohan Kumar *Comprehensive Analysis of a Wideband Spherical Dipole Antenna Using CST Microwave Studio*

Abstract — This paper introduces a modified design for the Spherical Dipole Antenna, enhancing its performance over the conventional structure. While the traditional antenna offers narrow bandwidth characteristics, the proposed modification significantly expands the bandwidth and achieves gain levels comparable to those of a standard dipole antenna. This antenna is specifically tailored for repeatable shielding effectiveness measurements. Its design is both area-efficient and battery-powered, with an optical link for streamlined connectivity. The antenna operates within a frequency range of 30 MHz to 4 GHz, delivering a bandwidth of 515 MHz in the lower frequency range and 1.88 GHz in the higher range. The electric field strengths at 0.835 GHz and 2.6 GHz are recorded at 2940 V/m and 3316 V/m, respectively. All simulations of the antenna were conducted using CST Microwave Studio (Computer Simulation Technology).

Sr. No.	Paper ID	Title
107	182	Balaji Raosaheb Shinde, Rajendra Mahajan, Ritu Sharma, Shobha D'Mello *Incorporating Sustainable Development through Indian Knowledge Systems: Analyzing the Role of NEP 2020 in Higher Education*

Abstract — The incorporation of Indian Knowledge Systems (IKS) into higher education presents a promising pathway toward addressing global sustainability challenges. The National Education Policy (NEP) 2020 envisions the integration of IKS into education, recognizing its potential to contribute to environmental, social, and economic sustainability. This study explores the relevance of IKS in promoting sustainable development, analyzing its connection to the goals set by NEP 2020. By investigating case studies and traditional practices across sectors such as agriculture, water management, disaster management, forest conservation, waste management and health, the paper highlights how IKS provides effective solutions to contemporary sustainability challenges while fostering a holistic and inclusive education system.

Sr. No.	Paper ID	Title
108	183	Charmi Chaniyara, Sidharth Saholiya, Shantanu Pawar, Arya Rane ***Disaster Classification Using Convolutional Neural Networks (CNNs)***

Abstract-Man-made and natural disasters pose significant threats to humanity, often resulting in loss of lives, extensive damage, and socio-economic disruption. The lack of effective strategies for managing these crises exacerbates their severity and impact. In this research, we propose a novel approach to disaster classification leveraging the power of Convolutional Neural Networks (CNNs). CNNs are well-known for their proficiency in image classification tasks due to their ability to learn and extract hierarchical features such as edges, textures, and shapes from visual data. This paper introduces a CNN based system specifically designed to classify a wide range of disaster types accurately. The system is trained on a manually curated dataset, obtained through web scraping, which includes diverse images of various disasters. By automatically extracting meaningful spatial features from these images, the CNN model enhances the accuracy and efficiency of disaster classification. This improvement in classification directly contributes to more timely and effective disaster management strategies, enabling tailored responses that can mitigate the severity of threats and reduce their overall impact.

Sr. No.	Paper ID	Title
109	184	Arnav Mangesh Pawar, Vishwa Shah,Vruddhi Shetty, Rasheetha Shetty, Ulhaskumar Gokhale ***"Rhythmiq" – Smarter Rhythm Monitoring (ECG IoT System with Analysis using AI&ML)***

Abstract– The "Smart ECG Analysing Tool" utilizes the ESP32 microcontroller and AD8232 sensor to monitor and analyse ECG data in real-time. This project aims to detect heart conditions such as tachycardia and bradycardia and display the results on an I2C LCD screen. The ECG data is also stored in a MongoDB cloud database for long-term storage and analysis. A Flask-based dashboard is used for visualizing past records, enabling healthcare professionals to track a patient's heart rate trends over time. Machine learning (ML) and artificial intelligence (AI) techniques are employed to predict potential heart-related conditions by analysing historical data. This tool serves as a portable and efficient solution for continuous heart monitoring, especially in remote healthcare settings, enhancing patient care through timely detection of irregular heart conditions. This paper emphasizes the concrete outcomes and

developments in the field of Internet of Things-based medical health assistants, going beyond simple study and findings. It evaluates their proven talents, benefits, drawbacks, and likelihood of being widely used in healthcare environments. The study also explores the gadgets' subsequent effects on patients and medical personnel, illuminating the revolutionary conclusions drawn from the data.

Sr. No.	Paper ID	Title
110	185	Shobha D'mello, Balaji Shinde, Rajendra Mahajan, Ritu Sharma *Evolution of Waste Management Practices: Lessons from Ancient Techniques and Modern Innovations for Environmental Sustainability*

Abstract — This paper explores the evolution of waste management practices from ancient techniques to modern innovations, emphasizing their impact on environmental sustainability. Waste management has been a vital aspect of human civilization, addressing the disposal and treatment of waste generated by human activities. Ancient societies adopted practices such as composting and reuse, which were simple yet effective in reducing waste accumulation. In contrast, modern methods leverage advanced technologies like waste-to-energy systems, recycling plants, and AI-driven sorting mechanisms, offering more efficient solutions to manage diverse waste types. By analyzing historical methods, contemporary advancements, and the roles of various stakeholders, the paper highlights deficiencies in the current system, particularly in India. Additionally, it examines the socio-economic and environmental implications of poor waste management practices. The study further delves into governmental policies, the involvement of the private sector, NGOs, and community initiatives, showcasing collaborative efforts to tackle waste challenges.

Sr. No.	Paper ID	Title
111	186	Aswathy S, Shaily Goyal, Ashwini Gaikwad, Anuja Gaikwad *Quantum Computing Moves toward Real-World Application*

Abstract—Quantum computing is transitioning from theoreti- cal concepts to tangible applications. Though still nascent, recent breakthroughs indicate a bright future. Qubits, the fundamental units of quantum computers, are susceptible to errors. Scientists are achieving progress in creating more robust qubits capable of sustaining their quantum state for extended durations. The quantity of qubits within a quantum computer is crucial to its processing capability. Organizations such as IBM and Google have engineered quantum computers with progressively larger qubit counts. Algorithms, the operational directives for a quan- tum computer, are also under development. Researchers are devising novel quantum algorithms capable of tackling problems intractable for traditional computers.

Sr. No.	Paper ID	Title
112	187	Priyanka Patel Badani, P.N. Nemade, Bhushan Sonawane, Abhilasha Saini *Review of Gas Sensors: Technologies, Applications, and Future Directions*

Abstract — Gas sensors are critical devices for monitoring environmental conditions and ensuring safety across various applications. This review paper provides a complete summary of the different types of gas sensors, including catalytic combustion, metal oxide semiconductor (MOS), conductivity, electrochemical, and surface acoustic wave (SAW) sensors. Each sensor type is examined in terms of its operating principles, applications, advantages, and limitations. The necessity for effective gas sensing technologies is underscored by the increasing presence of gases from both natural processes, such as volcanic eruptions and microbial activity, and anthropogenic sources, including industrial emissions and transportation. The review highlights the importance of gas sensors in addressing air quality, climate change, and public health concerns. Furthermore, it discusses emerging trends in gas sensor technology, such as miniaturization, advanced sensing materials, and the integration of Internet of Things (IoT) capabilities, which promise to enhance real-time monitoring and data sharing. Challenges such as cross-sensitivity, calibration, and environmental robustness are also addressed, along with potential solutions. The paper concludes that ongoing advancements in gas sensor technology will play a pivotal role in creating safer, healthier, and more sustainable environments, emphasizing the need for continued research and innovation in this vital field.

Sr. No.	Paper ID	Title
113	188	Prajakta Pawar, Dhanashree Pannase, Charushila Pawar , Sandip zade, *The Effectiveness of Augmented Reality in Marketing Campaigns*

Abstract — Augmented Reality (AR) has become a pivotal tool in modern marketing, providing innovative ways to engage consumers through immersive and interactive experiences. This paper evaluates the effectiveness of AR in marketing campaigns by analyzing various studies, examining its influence on consumer engagement, brand perception, purchase behavior, and marketing outcomes. Through a meta-analysis of empirical research, this study explores how AR enhances consumer experiences, fosters positive brand associations, and drives purchasing decisions. The findings indicate that AR significantly improves consumer interaction with brand content, leads to higher levels of engagement, and positively impacts purchase intent. However, challenges related to technology limitations, adoption barriers, and privacy concerns remain, which need to be addressed to maximize the effectiveness of AR in marketing.

Sr. No.	Paper ID	Title
114	189	Gauri Vaidya, Sowmya kini, Neeta Moharkar, Purvi Agarwal *Design of Arterial Pulse Detection System using Force sensitive resistor for Prakriti Classification*

Abstract — The ancient Indian medical system known as Ayurveda is where the idea of Prakriti first emerged. The balance of the three doshas—Pitta, Kapha, and Vata—determines each person's distinct physical and mental makeup. An evaluation of Prakriti through pulse diagnosis, which offers information about an individual's health, habits, and predispositions, is a common procedure in traditional Ayurvedic medicine. In order to ascertain an individual's Prakriti, this research explores the design of a modern arterial pulse detection system. Based on arterial pulse data, the system classifies a person's Prakriti using a combination of physiological

measurements, machine learning algorithms, and signal processing techniques. The difficulties and possibilities of combining conventional Ayurvedic principles with contemporary diagnostic technology are covered in the study.

Sr. No.	Paper ID	Title
115	191	Prajakta Borole, Shamit Shetty, Vedika Nemane, Sidhant Shetty, Om Vishwakarma ***Skill Quest: Integrating Personalized Learning and NLP-Driven Simulations for Career Growth***

Abstract–This research paper addresses the challenges engineering students face in acquiring essential skills and knowledge within their disciplines. Traditional learning platforms often lack personalized and adaptable guidance, leaving students struggling in a rapidly evolving landscape.To address this, Skill Quest, an AI-powered platform tailors learning pathways to individual needs, preferences, and goals. By curating targeted resources and generating customized plans, Skill Quest enhances engagement, improves learning outcomes, and provides a streamlined educational experience, making it a valuable tool in engineering education.

Sr. No.	Paper ID	Title
116	192	Ulhaskumar Gokhale, Pranoti Nage, Charmi Chaniyara, Sandip Zade ***Enhancing Image Classification with Pre-trained Convolutional Neural Networks and Grad-CAM Visualization for Explainable AI***

Abstract —This study explores an innovative combination of pre-trained Convolutional Neural Networks (CNNs) and Gradient-weighted Class Activation Mapping (Grad-CAM) to improve both the effectiveness of image classification tasks and the interpretability of the underlying models. Pre-trained CNNs harness the powerful feature extraction capabilities of models trained on large-scale datasets, enhancing computational efficiency and minimizing the need for extensive data collection and training from scratch. Grad-CAM, on the other hand, complements this by creating intuitive heat maps that visually highlight the regions of input images most influential to the model's predictions. These visual explanations not only clarify the neural network's decision-making process but also foster greater trust in AI-powered systems. The proposed methodology is thoroughly evaluated using well-established benchmark datasets, demonstrating its ability to achieve cutting-edge classification performance while providing transparent and interpretable insights into the model's behavior. By fostering trust and understanding in AI systems, this approach has the potential to support broader adoption and ethical deployment of image classification models across diverse applications.

Sr. No.	Paper ID	Title
117	193	Bhagyashree Gaikwad, Alice Vaghasia, P. N. Nemade ***Taming the Quantum Beast: Milestones in Quantum Error Correction***

Abstract — Quantum Error Correction (QEC) has emerged as a cornerstone for realizing practical quantum computing. This paper provides a chronological overview of key

developments in QEC and quantum computing, highlighting milestones from theoretical breakthroughs to experimental validations. The narrative explores the progression from foundational theories in the 1990s to transformative technologies in the 2020s, culminating in revolutionary advancements in 2024. The analysis underscores the critical role of QEC in addressing the fragility of quantum information and outlines future directions for achieving fault-tolerant quantum computation.

Sr. No.	Paper ID	Title
118	194	Vanshika Singh, Pravin Nemade, Bhushan Sonawane, Priyanka Badani *Green Corrosion Inhibition of Mild Steel: Insights from Plant Extracts*

Abstract — Inhibition of corrosion in sulphuric acid and hydrochloric acid of mild steel were studied in absence and presence of plant extracts as a pleasant inhibitor. The outcome acquired that leaves extracts reduce the corrosion rate and serve as an inhibitor for metal (steel) in acid. As the concentration of inhibitor increases; the efficacy of inhibition was found to be increase whereas the temperature shows otherwise. The source of plants, the concentration of the primary active components in plants, and the method of preparation all affect how well plant corrosion inhibitors stop corrosion. The inhibitor is a mixed type showed by polarization measurements. The outcomes acquired from the various procedures are in good settlement. With the help of Scanning electron microscope as well as Fourier-transform infrared FTIR the morphologies of surface of mild steel have been observed.

Sr. No.	Paper ID	Title
119	195	Vignesh Gajula, Atharv Rajpoot, Rozin Baluch , Pinky Steffi Alexander *High Performance Piezoelectric Nanogenerators for Energy Harvesting and Storage Applications*

Abstract — This paper explores piezoelectric nano-generators (PENGs) as a promising solution for sustainable energy by converting ambient mechanical energy into electrical energy at the nanoscale. It reviews fundamental principles, fabrication techniques like nanowire growth and thin film deposition, and strategies for performance optimization. The integration of PENGs with energy storage for applications in wearables, biomedical devices, and smart infrastructure is discussed. Key challenges, including material limitations and scalability, are addressed alongside future directions focusing on lead-free materials and hybrid systems, emphasizing PENGs' potential in advancing energy sustainability for next generation technologies.

Sr. No.	Paper ID	Title
120	196	Karuna Bilakhia, Priyanka Sulakhe, Sameer Katakdounde *Hybrid Solar Still Systems: A Review of Advancements and Applications.*

Abstract — Hybrid solar still systems have emerged as an innovative solution to enhance the efficiency of traditional solar desalination techniques. By integrating supplemental energy

sources and advanced materials, these systems aim to achieve higher freshwater yields and broader applicability. This review explores the advancements in hybrid solar still systems, highlighting key technologies such as thermal energy storage, phase change materials, and photovoltaic-thermal integration. Furthermore, it discusses the practical applications of these systems in remote areas, disaster relief, and agriculture, along with the challenges and future directions in this field.

Sr. No.	Paper ID	Title
121	197	Priyanka Sulakhe,Karuna Dhruv Bilakhia, Chaitanya Ravindra Kolte *Advances, Challenges, and Opportunities in Sustainable and Renewable Energy Systems: A Review*

Abstract — The transition to sustainable and renewable energy systems is critical for addressing global energy demands while mitigating environmental impacts. This review highlights recent advances, challenges, and opportunities in the development and integration of renewable energy technologies, including solar, wind, biomass, hydropower, geothermal, and emerging hydrogen systems. Advances in photovoltaic materials, wind turbine design, biofuel production, and energy storage solutions, such as batteries and super-capacitors, are accelerating the adoption of renewable systems. However, challenges persist, including intermittency, high capital costs, material sustainability, and regulatory hurdles. This paper also explores the role of smart grids, artificial intelligence, and hybrid systems in optimizing energy generation and distribution. Finally, it discusses future directions, such as breakthroughs in hydrogen energy, offshore renewables, and circular economy practices, which have the potential to transform global energy landscapes. A multidisciplinary approach, coupled with supportive policies and innovative technologies, is essential for realizing the full potential of renewable energy systems in achieving a sustainable future.

Sr. No.	Paper ID	Title
122	198	Purvi Agarwal, Gauri Vaidya, Ammu Striney, Jyoti Chhatrband, *Digital Forensics: Techniques, Challenges, and Future Directions*

Abstract —Digital forensics is a critical field concerned with the investigation, analysis, and preservation of digital evidence in a manner that is legally admissible. With the rise of cybercrime, data breaches, and sophisticated cyber-attacks, digital forensics has become an essential tool for law enforcement and cyber security professionals. This paper examines the fundamental techniques, tools, challenges, and emerging trends in the digital forensics landscape. Key areas covered include data acquisition, analysis, reporting, the role of cloud and IoT forensics, and the impact of artificial intelligence. The paper also addresses ethical considerations and legal issues surrounding digital forensics

Sr. No.	Paper ID	Title
123	199	Chaitanya Kolte, Priyanka Mandar Sulakhe *Mechanical Vibration Analysis and Modelling Using Engineering Programs*

Abstract — Mechanical vibrations significantly affect engineering systems, influencing their performance and longevity. This study explores methodologies for analyzing and managing mechanical vibrations, focusing on finite element analysis, modal analysis, and control algorithms. By integrating advanced signal processing and artificial intelligence (AI) techniques, it enhances fault detection and predictive maintenance. Key findings include the effectiveness of adaptive control systems, the potential of data-driven approaches, and the challenges in fine-tuning semi-active suspension systems. Despite advancements, further research is needed to bridge theoretical and practical gaps, revolutionizing diagnostics and improving industrial efficiency.

Sr. No.	Paper ID	Title
124	200	Ammu Striney J, Purvi Agarwal, Vivek Ramakrishnan ***Enhanced Modelling and Control of Dual Active Bridge Converters: A Unified Approach***

Abstract —Dual active bridge (DAB) converters are crucial for high-efficiency isolated DC-DC power conversion in applications such as electric vehicles and micro grids. This paper presents a unified framework for enhanced modelling and control of single-phase and three-phase DAB converters. A hybrid modelling approach combining state-space and generalized averaging methods is proposed to improve small-signal stability analysis. Additionally, a fast recovery control strategy with feedforward compensation effectively suppresses DC-bias currents and mitigates magnetic saturation during transients. Exact solutions for zero-voltage-switching (ZVS) boundaries and AC-port currents are derived to optimize efficiency. Simulation and experimental results validate the proposed methods, showcasing enhanced stability, efficiency, and dynamic performance.

Sr. No.	Paper ID	Title
125	201	Viren Piyush Chheda, Abhishek Dattaram Banait, Shubham Sanjay Shinde, Kundan Shyamlal Kumavat ***AI Healthcare Management System***

Abstract–This paper presents a sophisticated AI-driven healthcare management system designed to transform medical practices through the integration of advanced technologies. The system features a centralized dashboard for real-time global health analytics, enabling healthcare providers to monitor trends, allocate resources, and respond effectively to public health challenges. By automating medical history management, it reduces administrative workloads while ensuring accurate and accessible patient data. The platform incorporates advanced diagnostic tools, including automated analysis of Complete Blood Count (CBC) reports and radiological image interpretation using computer vision, significantly enhancing diagnostic precision and efficiency.

Sr. No.	Paper ID	Title
126	202	Sharvari Bhovad, Dnyaneshwar Kulkarni, Shravan Kotian, Aayush Lad, Pinky Steffi Alexander

| | | *Nanotechnology In Quantum Computing – A Prospective Applications* |

Abstract — The collaboration of nanotechnology and quantum computing enables the development of advanced quantum processors by utilizing nanomaterials like carbon nanotubes, graphene, and superconducting qubits. Nanotechnology enhances qubit coherence and reduces error rates through precise fabrication techniques such as atomic layer deposition. This integration helps address challenges like quantum de coherence and interconnectivity, paving the way for scalable, fault-tolerant quantum systems capable of solving complex problems.

Sr. No.	Paper ID	Title
127	203	Kamaljit Kaur Bhagwat , Sudhanshu Shekhar Dubey *RSA Algorithm For A Secure Cloud Environment*

Abstract — Cloud computing has emerged as a dominant technology, providing scalable and flexible computing resources over the internet. However, security concerns, especially related to data privacy and protection, pose significant challenges to cloud adoption. The RSA (Rivest-Shamir-Adleman) algorithm, one of the most widely used public-key cryptosystems, plays a crucial role in enhancing cloud security by enabling secure data transmission and storage. This paper provides an overview of the RSA algorithm's application in cloud computing environments, focusing on its role in securing data through encryption, digital signatures, and key exchange protocols. RSA's reliance on the computational difficulty of factoring large prime numbers ensures robust security, but its performance limitations in handling large datasets and potential vulnerabilities in the face of quantum computing are discussed. The integration of RSA in cloud security protocols like SSL/TLS and its use in hybrid cryptosystems for balancing performance and security is explored. The paper concludes by addressing current challenges and the future outlook of RSA in cloud security, including the shift toward post-quantum cryptographic solutions.

Sr. No.	Paper ID	Title
128	204	Kavita Bani, Aruna Pavate , Samita Bhandari, Kiruthika B *Revealing the Internet of Things (IoT) Future: Use Cases and Industry Trends*

Abstract–The Internet of Things (IoT) is poised to revolutionize industries by enabling smarter decision-making, enhancing operational efficiency, and creating new business opportunities. This paper explores the future of IoT through an examination of emerging use cases and industry trends. Key sectors such as healthcare, manufacturing, smart cities, agriculture, and logistics are transforming with IoT innovations. Use cases highlight the role of connected devices in predictive maintenance, real-time health monitoring, autonomous vehicles, and optimized resource management. The paper also discusses the technological advancements driving IoT, including 5G, edge computing, artificial intelligence (AI), and machine learning, which are enabling more responsive and intelligent networks. Furthermore, it examines the challenges and opportunities related to IoT adoption, including data security, privacy concerns, scalability, and interoperability. The study concludes by forecasting the potential trajectory of

IoT technologies, with an emphasis on how they will reshape industries and society in the coming years. As IoT continues to mature, it promises to unlock unprecedented levels of automation, connectivity, and intelligence, leading to a more interconnected and efficient world.

Sr. No.	Paper ID	Title
129	205	Harsh Dalvi, Sukrut Chinchalkar, Chinmay Kadam, Raj Bhosale, Jyoti Mali ***Autonomous rover using Raspberry Pi***

Abstract — This project presents the design and implementation of an autonomous rover powered by a Raspberry Pi, capable of navigating and making real-time decisions in a dynamic environment. The system integrates multiple sensors, including ultrasonic and infrared modules, to enable obstacle detection and path planning. A camera module is incorporated for advanced image processing tasks such as object recognition and line following. The rover's movement is controlled through motor drivers, with commands processed by Python-based algorithms running on the Raspberry Pi. Wireless communication allows for remote monitoring and control. This autonomous rover demonstrates practical applications in areas such as search and rescue, environmental monitoring, and exploration, highlighting the potential of low- cost, flexible platforms like Raspberry Pi in robotics.

Sr. No.	Paper ID	Title
130	208	Harsh Nikharge, Sushil Jadhav, Om Padhi, Kashish Naik ***GRC Courier Management System***

The Courier Management System (CMS) is a comprehensive industrial solution designed to streamline the operations of GRC, an international courier company. Built using React for the frontend and Firebase as the backend, this system leverages modern web technologies to enhance the efficiency of courier services. CMS provides a user-friendly interface that caters to various roles such as admin, client, and developer, each with tailored access levels and functionalities. Key features include a rate calculator that dynamically computes shipping costs based on destination, weight, and other parameters, and an invoice generator that automates billing, ensuring accurate and timely invoicing for both local and international shipments. Additionally, the system offers warehouse management functionalities to track packages, monitor inventory, and ensure smooth logistics operations. The robust user authentication system is role-based, ensuring that each user type can access only the tools and data relevant to their responsibilities. Admins can oversee the entire system, manage users, and view detailed analytics, while clients can track their shipments, and developers can perform system maintenance and upgrades This project is designed to optimize courier operations, reduce manual intervention, and improve overall user experience, making it a scalable solution for the growing needs of GRC's international courier operations.

Sr. No.	Paper ID	Title
131	209	Ajinkya Bapat, Additya Dutta, Manan Yoganand, Pinky Steffi Alexander

		Prominent Role and Advancements of Semiconductor Technology in GPU's- A Future Perspective

Abstract — This study examines the pivotal role of semiconductors in Graphics Processing Units (GPUs), highlighting their significance in enabling high-speed processing, parallel computations, and energy efficiency for diverse applications such as gaming, artificial intelligence, and scientific simulations. It discusses key materials and fabrication technologies, including silicon-based CMOS processes, FinFETs, and emerging alternatives like gallium nitride (GaN) and silicon carbide (SiC). The research addresses challenges in scaling semiconductor technology to meet growing computational demands and explores sustainable manufacturing practices. By analyzing advancements in semiconductor design and integration, it offers insights into future trends in GPU development.

Sr. No.	Paper ID	Title
132	211	Ritu Potham, Rashi Potham, Shubhangi Rajnale, Arya Patil, Pinky Steffi Alexander *A Comprehensive Investigation of Semiconductors' Effects on Emerging Technologies*

Abstract-Semiconductors play a vital role in enhancing the bearing of mechanical advancements as they are the foundation of many electronic systems and technologies that define the current state of the art. Semiconductors' enormous impact on future advancement is investigated in this assessment study, which also examines the key instances, difficulties, and potential entry points that will ultimately shape the semiconductor sector. The investigation of the research provides a forward-looking perspective on the future of semiconductor technology, including potential breakthroughs, industrial collaborations, and the societal implications of continuous advancement. Understanding the intricate relationships between semiconductors and emerging technologies may help stakeholders, academics, and policymakers better navigate the shifting landscape and realize the full potential of semiconductor advancements for the benefit of society. Beginning with a genuine semiconductor improvement diagram, the research focuses on the innovative developments that have pushed the sector forward. It then explores the current status of semiconductor development, looking at the latest developments in materials, design models, and line cycles. Consideration is given to emerging concepts as quantum handling, neuromorphic figuring, and silicon photonics.

Sr. No.	Paper ID	Title
133	213	Atharva Chavan, Advait Chavale , Gargi Ambedkar, Janhavi Dangle, Prajakta Borole *Foodies – Smart Restaurant Management and Ordering System*

Abstract - The food and beverage industry is undergoing transformative growth, necessitating innovative solutions to address operational challenges such as managing customer reservations, streamlining orders, and enhancing user satisfaction. Existing restaurant management systems often lack the integration of modern technologies like real-time analytics, personalized customer experiences, and eco-friendly dining features. This paper introduces Foodies, a comprehensive smart restaurant management and ordering system that combines cutting-edge

IT solutions to elevate both operational efficiency and customer satisfaction. Leveraging tools such as business intelligence, sentiment analysis, and secure cloud-based architectures, Foodies facilitates a seamless dining experience through features like QR code-based ordering, chatbot interaction, and customizable user dashboards. The system aims to redefine restaurant operations while setting a benchmark for technological integration in the hospitality industry.

Sr. No.	Paper ID	Title
134	214	Preeti Nadar, Pratik Ladhe, Siddhart Dhangar, Prajakta Borole *Gamified Personal Finance Management App*

Abstract–Even though financial literacy is a crucial life skill, many people still struggle to grasp their personal finances. We offer a gamified personal financial platform called "Fin-AI" to solve this problem. It's a creative and interesting site. The software creates an engaging and interactive learning environment by fusing artificial intelligence with the power of gamification. By including a leaderboard function, FinAI encourages user competition and cultivates a culture of ongoing learning and development. FinAI transforms financial education by combining gamification, AI support, and streamlined teaching techniques, making it approachable, interesting, and effective for users of all skill levels. This platform transforms the study of finance in an age of growing financial complexity by making it more approachable, interesting, and efficient. Fin-AI integrates state-of-the-art features like chatbots and prediction tools to improve user experience. Fin-AI guarantees that customers obtain not only a thorough education in personal finance but also useful tools and assistance to implement their knowledge efficiently by fusing these cutting-edge features with gamified learning.

Sr. No.	Paper ID	Title
135	216	Saanjh Moondra, Vignesh Gajula, Ajinkya Bapat, Atharva Rajpoot, Pinky Steffi Alexander *Semiconductors: The Pillars of Modern Technology-Emerging Trends and Futuristic Prospective*

Abstract-The foundation of contemporary inventions is semiconductor technological advances, which drives developments in sectors including electronics, renewable energy, telecommunications, and healthcare. The basic characteristics and principles of semiconductor materials that impact device performance are explained in this review, which also charts the development of these technologies from the invention of the transistor to ground-breaking innovations like gate semiconductors and two-dimensional materials like graphene. Particular difficulties are emphasized, including material limitations, complicated production processes, and environmental effects. Measures for enhancing sustainability, conserving energy, and minimizing waste in manufacturing are examined as solutions to these issues. The study also addresses the long-term consequences of globalization, such as supply chain interruptions like the COVID-19 pandemic, and highlights the need of creating robust manufacturing framework to facilitate future expansion. This article also emphasizes new technologies that have the potential to revolutionize data processing and storage, such as nanotechnology, artificial intelligence integration, and quantum computing. The study supports the need for sustainability and innovation as the primary drivers of improving semiconductor technologies and worldwide technological progress.

Sr. No.	Paper ID	Title
136	217	Shubham Deshmukh, Shubham Mishra, Meet Patil, Nikhil Patil, Prajakta Borole ***Glaucoma Detection Using Deep Learning Techniques***

Glaucoma is one of the leading causes of irreversible blindness and requires early detection because once it occurs, damage is permanent. Traditional clinical methods are insensitive for early detection. This paper presents a solution based on deep learning and machine learning algorithms that can be used to detect glaucoma. The system applies the Res-Net model and the VGG16 convolutional neural network model to improve detection accuracy. The hybrid model extracts fine features such as variation in optic cup and disc ratio, which will be analyzed through traditional machine learning algorithms. Therefore, this paper aims to help improve the diagnosis and detection rate of glaucoma.

Sr. No.	Paper ID	Title
137	218	Ansh Shah, Sarveshwar Dalvi , Pankaj kumar Soni, Swapnil Gangurde , Mahalaxmi Palinje ***Design Of Ring Oscillator Using MOSFET At 32nm AND 45nm Using MICROWIND Tool With Comparison Of Performance Parameters***

Abstract — A ring oscillator is a circuit that oscillates between two voltage levels, representing true and false. A ring oscillator made with MOSFETs is primarily used to measure the delay characteristics of a given manufacturing process. The CMOS technology has advantages, like low power consumption, high noise immunity, and cost-effectiveness. This paper will present the design and performance analysis of a 5-stage ring oscillator using MOSFETs in 32nm and 45nm technology nodes. The design and simulations were done using the Microwind tool. Important performance parameters such as propagation delay, power consumption, and frequency of oscillation have been compared minutely. It reports the effect of technology scaling on ring oscillator performance and gives a glimpse into low-power and high speed circuit design. It shows extreme improvements in performance of the 32nm node Propagation Delay (ps), Power Consumption (mW), and Frequency (GHz) as compared to that of the 45nm node and shows the merits of advanced technology nodes for high-speed applications.

Sr. No.	Paper ID	Title
138	220	Vivek Rajesh Sharma, Rohit Milind Surve, Vishwas Vinod Singh, Tanmay Sonawane, Deepali Maste ***An Integrated Platform for Chat, Code, and Media Generation using LLM Models***

Abstract—This paper presents the design, implementation, and evaluation of a unified Software as a Service (SaaS) platform that consolidates multiple advanced artificial intelligence (AI) tools. The platform integrates intuitive user interfaces with functionalities such as chat-based conversational AI, code generation, text-to-image generation, Image Transformation, and text-to-audio generation. Results demonstrate notable improvements in enabling seamless transitions between AI functionalities, customizing use cases, and integrating AI outputs into various projects. This approach highlights the potential for simplifying workflows and enhancing productivity through a unified AI ecosystem.

Sr. No.	Paper ID	Title
139	221	Jyoti Vitthal Chhatrband, Kirti Rawal ***Heart rate detection using Facial Video Systems***

Abstract — Recent improvements in non-contact physiological measurement methods have sparked a lot of interest in using face movies to get vital signs, especially heart rate. This method looks like a good way to watch health from afar; since it lets you get important information without using actual tools. This paper talks about the creation and testing of an AI-powered system that can tell heart rate from small changes in face color recorded in video streams. The advanced signal processes and machine learning techniques, such as Fast Fourier Transform (FFT) and convolutional neural networks (CNNs), to look at the changes in skin color that show where the blood is flowing is part of the method. First, the video frames are pre-processed to make the face features stand out more. Next, they are split to focus on specific areas of interest, like the forehead and cheeks, where heartbeat causes strong color changes. We follow the changes in time in these areas across the movie clip to get a time-series signal that shows changes in blood volume. Then, FFT is used to break down this information and find the frequency that corresponds to the heart rate. The system has been tested on a set of face videos taken in different lighting conditions and with people moving around. It showed the same level of reliability and accuracy as standard contact-based sensors. Our findings suggest that face video-based heart rate tracking could be a useful tool for telemedicine and virtual health exams, making it easier to keep an eye on people's health in a variety of situations all the time.

Sr. No.	Paper ID	Title
140	222	Harshad Sahebrao Phadtare, Aditya Borhade, Shirley Posture, Tejas Jadhav ***Development of Robust and Efficient Face Recognition based Attendance system using Machine Learning***

In recent years, the integration of biometric technologies in various domains has gained significant momentum due to their potential to enhance security and operational efficiency. This project, titled "Visage Verify," aims to develop a robust and efficient face recognition attendance system utilizing Python. By employing machine learning techniques the system ensures high accuracy and reliability in various lighting conditions and poses. Key components of the system include a facial detection module, a feature extraction module, and a matching algorithm. Through this project, we aim to demonstrate the feasibility and advantages of using facial recognition technology for attendance management, highlighting its potential to enhance

accuracy, save time, and improve overall operational efficiency.

Sr. No.	Paper ID	Title
141	225	Nishit Prabhu, Aayushi Tandale, Chinmayee Bidaye, Kiruthika B. ***Building Momentum: Machine Learning for Predicting Stock Performance with Technical Indicators***

This study explores the application of machine learning (ML) in momentum trading using a simplified approach based on publicly available data such as candlestick charts, volume, and moving averages. By utilizing Long Short-Term Memory (LSTM) networks, the model analyzes historical stock data and key technical indicators to predict future price movements. Emphasizing accessibility over computational complexity, the approach demonstrates the potential of ML to enhance trading strategies while maintaining the fundamental dynamics of equity markets. This research highlights the efficacy of combining traditional technical analysis with ML techniques enhancing buying strategies.

Sr. No.	Paper ID	Title
142	226	Dhanashree Bhanushali, Divya Gaikvad, Renuka Nagpure ***Prediction of Colon Cancer Using Artificial Intelligence Comprehensive Review and Future Directions***

Abstract-Colon cancer remains a leading cause of cancer-related morbidity and mortality. Early detection is crucial for improved patient outcomes. This paper explores the application of artificial intelligence (AI) techniques, specifically machine learning algorithms, to predict colon cancer risk using readily available patient data. We investigate the effectiveness of various models, including logistic regression, support vector machines, and neural networks, trained on a dataset incorporating demographic, lifestyle, and medical history indicators. Preliminary results demonstrate the potential for AI-driven approaches to significantly improve the accuracy of colon cancer risk stratification, potentially leading to more targeted screening and early intervention efforts.

Sr. No.	Paper ID	Title
143	227	Atharva Kadu,Ritesh Ishi, Romit kudu,Abhishek Gole, Renuka Nagpure, Snehal Gholap ***INTERVERSE: Job and Internship Ecosystem Using Blockchain***

 Abstract– The "INTERNVERSE: Job and Internship Ecosystem Using Blockchain" project introduces a decentralized platform designed to streamline the management of job listings, internships, and credential verification. Utilizing blockchain technology, the system ensures secure, transparent, and tamper proof data handling. Key features include the integration of smart contracts for automating agreements, proof of work mechanisms to enhance security, and decentralized file storage for safeguarding user data. This platform addresses common issues in traditional job platforms, such as fraudulent credentials, delayed payments, and data breaches, by leveraging intermediaries, INTERNVERSE reduces operational overhead, enhances user trust, and provides a scalable solution for global access to job and internship opportunities. The

application also incorporates user-friendly interfaces and cryptocurrency transactions, making it a comprehensive tool for modern job seekers and employers. This project demonstrates the transformative potential of blockchain in creating a secure, efficient, and reliable ecosystem for the employment sector.

Sr. No.	Paper ID	Title
144	228	Nileema Pathak, Shweta Sharma, Bhavna Arora, Pranali Bhusare ***A Review on Cross-Validation for Imbalance Time Series Data Classification***

Abstract— Data Balancing for a dataset used for machine learning helps keep a model from becoming biased against one class, which facilitates model training. There are various methods to balance the dataset which can be done based on the complexity and size of the dataset. Small size datasets can use balancing techniques like oversampling using SMOTE, whereas large datasets can use undersampling methods like cluster centroids. Oversampling faces the risk of overfitting and increased computation. Undersampling reduces the data but can face loss of important information. Cross Validation is proposed in this paper, in which the process of splitting the dataset into multiple subsets to train and validate the model is used. It also ensures that the balancing techniques applied during training do not bias the validation process. This ensures robust evaluation of the model's performance, especially on imbalanced datasets.

Sr. No.	Paper ID	Title
145	229	Trishala Dixit ***Green Industrial Internet of Things: A Sustainable Future for Industry 4.0***

Abstract–The Industrial Internet of Things (IIoT) is a key driver of the fourth industrial revolution (Industry 4.0). However, the increased adoption of IIoT technologies has raised significant concerns regarding energy consumption and environmental sustainability. This paper presents the concept of Green IIoT, which integrates energy-efficient technologies, renewable energy sources, and smart resource management into industrial systems. Through a series of experimental results, we demonstrate how Green IIoT can minimize energy usage, reduce carbon footprints, and improve sustainability in industrial operations. The study also explores the challenges and potential solutions for the widespread adoption of Green IIoT technologies.

Sr. No.	Paper ID	Title
146	230	Priyanka Tripathi, Jagadish B. Helonde ***Solar-Powered Circuit for Charging Electric Vehicles (EVs) Using Incremental Conductance MPPT and Bidirectional DC-DC Converter***

Abstract- An innovative solar-based electric vehicle (EV) charging circuit that makes use of a solar photovoltaic (PV) system to charge an EV battery while guaranteeing effective power conversion is presented in this study. Under standard test circumstances (STC), the system uses the Incremental Conductance The Maximum Power Point Tracking (MPPT) technique is used

to optimise solar PV power.For battery charging, a buck converter reduces the voltage to 220V after a boost converter raises it to 400V. The EV gets charged from the grid when there is no solar energy available. Using a corner frequency of 10 rad/sec, a proportional-resonant (PR) controller controls the power. A bidirectional DC-DC converter is equipped with a 400V DC output that was acquired by an H-bridge rectifier. The system's overall efficiency, power flow, and battery charging performance are examined. The findings indicate that EV charging systems offer clean energy charging, smooth vehicle operation with no emissions, and a reduction in grid dependency.

Sr. No.	Paper ID	Title
147	232	Parth Karande , Anhishek Gajakosh, Nikhil Jagtap , Snehal Sagare , Pragya Jain ***Design and Build a Functional 3D Printer – An Overview***

Abstract- This project was oriented for the design and construction of a functional 3D printer, through an analytical study of 3D printing technologies. Finds design parameters for efficient prototyping and combines mechanical, electrical and software systems. Mechanical aspects are mainly frame geometry, movement systems, print head and extruder design. Highlighting the electrical design which features the motor drivers, heater control, power supply, and electronics housing. Firmware, integrating existing slicers, and maybe a user interface, depending on how far you want to take this. (Testing and calibration ensure that the whole setup comes out to be a solid printing tool.) This project involves building a 3D printer, which includes hands-on experience in applying principles of mechanical, electrical, and software engineering and bridging the gaps in different components through practical knowledge of their system integration and optimization.

Sr. No.	Paper ID	Title
148	233	Shikha Malik, Vaibhav V. Dixit ***Enhancing Skin Cancer Classification with Hybrid Feature Extraction and Machine Learning***

Abstract — Skin cancer is a tumor caused by the rapid growth of several skin cells. Clinical diagnosis of skin cancer involves detecting cancer with the naked eye by using metadata like patient history, age, lesion location, and morphological structures, and is a time-consuming process. Automated systems can assist primary clinicians and healthcare professionals in early diagnosis of skin cancer which would help in reducing unnecessary excisions, lowering the healthcare costs and stress for patients. This paper provides an automated approach of skin cancer detection using hybrid features which are crucial for the accurate diagnosis of skin cancer. The proposed approach includes preprocessing for artifact removal, segmentation for extracting lesion area, spatial transformations for solving imbalance issues, feature extraction for determining texture, color, and shape features from segmented lesions, and feature classification using several machine learning classifiers. The results demonstrate that the support vector machine classifier outperforms other models by providing promising accuracy of 91%, precision 87%, sensitivity 93%, specificity 89% and F1 score 90% on PH2 dataset.

Sr. No.	Paper	Title

	ID	
149	234	Snehal Bhelkar, Nilesh Shimpi ***Smart IOT Based Substation Automation***

Abstract–Green and sustainable electricity is the need of the hour and due to the wide spectrum of supply and demand, power management has become one of the most important concerns worldwide. India's electricity consumption is experiencing one of the fastest growths in the world. Therefore, we need to use substation automation systems to effectively control and distribute electricity in modern substations. We will monitor substation equipment with accuracy and reliability using high-quality, ergonomic sensors. The online systems we have created can be accessed and controlled remotely via a smartphone or desktop computer and an internet connection, allowing the daily activities and operations of the transformer center to be controlled, monitored and maintained remotely and digitally. When a problem occurs, the protection relay must be activated immediately. With the introduction of ESP32, it will be used for electronic communication and protection purposes within and between transformer centers. Substation Automation System (SAS) provides local and remote control and monitoring capabilities for all equipment in the substation. Supervisory control and data acquisition (SCADA) systems provide users with human-sourced time and help improve efficiency, performance, reliability, secure and honest information.

Sr. No.	Paper ID	Title
150	236	Bhavin Shah, Ramesh Kulkarni, Ankit Deogharkar, Mohan Kumar, Jyoti Mali ***Optimizing services with Power BI by integrating real-time inventory management systems for businesses***

Abstract—The proposed paper presents an approach to integrating a real-time inventory management system for businesses using Power BI, a robust business analytics tool. The system aims to streamline inventory tracking, enable better forecasting, and enhance overall operational efficiency. The paper demonstrates how Power BI can be utilized to visualize inventory data, create real-time reports, and provide actionable insights to vendors. The proposed solution promises to improve customer service, reduce operational costs, and optimize inventory control for businesses.

Sr. No.	Paper ID	Title
151	238	Priti Mishra ***Medical IOT- A Pervasive Innovative Technology in Health-Care***

Abstract–The Internet of Things (IoT) is the interconnection of varied devices which when integrated with sensors and software enables the end user to collect and interchange data. In today's world, the usage of IoT allows us to connect and control remote t infrastructures, thus creating more avenues for integration of the physical and virtual world which then results in better and more accurate systems and monetary benefits. Technology plays a very important role in every aspect of human life. An emerging domain where technology plays a vital role is Medical Technology. Medical technologies that use surgeries with lower invasion, satisfactory

monitoring systems and scanning equipment that surpass excellence have made it possible for patients to waste minimum time in hospitals and enjoy meaningful and healthy life at their abode. Owing to these benefits in health-care three innovations in technologies using IoT are discussed i.e. RFID, Raspberry Pi and Android and Bluetooth technology. These technologies focus on low-cost, reliability of medical equipment's in measurements and well- being of patients. The structural framework of all of these technologies is studied in depth. Finally a comparative analysis of all three technologies along with a proposed framework by combining the best features of the discussed technologies is introduced.

Sr. No.	Paper ID	Title
152	239	Mahalaxmi Palinje, Sanjeet K Sinha *A Review on Performance Analysis of MOSFET and CNTFET based Mixed-Signal Circuits for Low Power and High-Frequency Applications*

Abstract-The paper provides a comprehensive review of the performance analysis of mixed-signal circuits designed using MOSFET (Metal-Oxide-Semiconductor Field-Effect Transistor) and CNTFET (Carbon Nanotube Field-Effect Transistor) technologies. The focus is on evaluating their suitability for low-power and high-frequency applications. The rapid demand for high-performance, energy-efficient circuits in modern communication and computing systems has driven research into alternative materials and device structures. The advantages and challenges of MOSFETs and CNTFETs in terms of performance, power consumption, frequency response, and integration into mixed-signal circuits are analyzed. A comparative evaluation is provided based on experimental and simulation results from various studies. Key performance metrics such as power consumption, operating frequency, scalability, and design challenges are discussed. A comparison table summarizes the critical differences and potential advantages of these technologies, highlighting CNTFET's promise as a next-generation alternative to MOSFETs.

Sr. No.	Paper ID	Title
153	240	Priyanka Sharma Goyal, Goswami *Decentralized Energy Trading Platforms: A Case Study Approach to Blockchain Algorithms*

Abstract- This shift towards renewable energy resources has drastically changed the face of energy trading. The generally traditional markets of energy rely on centralized systems, with inherent inefficiencies, high operation costs, and a general lack of transparency. Here comes blockchain technology, which is a decentralized solution to these problems. Algorithms are an absolute necessity in order to achieve most applications for blockchain in relation to energy trading- topics like smart contract execution, market optimization, pricing mechanisms, and even energy prediction .This paper presents the critical algorithms in blockchain-based energy trading systems by classifying them according to specific functions and gauging their contributions toward enhancing market efficiency and reliability.

Sr. No.	Paper ID	Title

154	241	Ganesh Uttam More,Vinayak Ramesh Sanap,Gaurav Satyawan Sharma,Shreya Vikas Jadhav,Prof . Kalpana Mane ***A Real-Time Carpooling Web Application***

Abstract-This research paper presents the design, development, and evaluation of a real-time carpooling web application aimed at promoting sustainable urban travel while enhancing commuter convenience. The platform integrates advanced features such as dynamic ride-matching algorithms, real-time location tracking, and transparent cost-sharing mechanisms. Users can seamlessly create or join rides, reducing travel expenses, traffic congestion, and environmental impact. The system incorporates safety measures, including user verification and a rating mechanism, fostering trust among users. Evaluation of the platform with real-world participants demonstrated significant improvements in user satisfaction, ride-matching efficiency, and engagement rates. The study highlights the transformative potential of this solution in addressing modern urban transportation challenges and encourages the adoption of shared mobility practices for a greener, more sustainable future

Sr. No.	Paper ID	Title
155	242	Parv Parikh, Jaimin Trivedi, Musaddiq Bijle, Sunil Kadam ***Design of 11KV/433V Substation in Anushakti Nagar***

Abstract- A substation is a component of an electrical generation, transmission, and distribution network. Substations typically include switches, protection and control devices, and transformers. In addition to altering voltages, the substation has a number of protective devices such as circuit breakers and fuses to safeguard the distribution network. These are built so that multiple distribution circuits can be disconnected for repairs and load shading. Substations are very important parts of a power system as they control distribution of low voltage to residential and commercial areas. This paper involves design of 11kV/433V substation to meet consumer demands efficiently and with less losses. This paper provides with crucial information for substation design and the techniques used It consists in depth study of components involved in substation design and function of each in ensuring reliable power transfer. This paper also includes the various steps involved in substation design and considerations taken for the same. To select components for substation we need to carry out equipment sizing which includes mathematical calculations for selecting transformer, HT & LT switchgear, cables, etc.

Sr. No.	Paper ID	Title
156	243	Faiz Ansari, Jay Patel, Shree Shinde, Vaibhav Raut, Pranoti Nage ***Cloud Based Saas Management Platform And Website Builder***

Abstract-CloudCreek is a comprehensive SaaS platform designed for marketing, web, and software development agencies. Its multi-tenant architecture ensures secure and isolated operations for multiple agencies on shared infrastructure, providing scalability and efficient resource use. The platform includes a drag-and-drop website builder with customizable templates, SEO tools, and real-time analytics, powered by technologies like HTML5, CSS3, JavaScript, and Next.js. CloudCreek also offers project management tools featuring task tracking, Gantt charts, Kanban boards, and integrated communication for seamless project

execution. Its real-time analytics dashboard delivers insights into client engagement, project milestones, and resource utilization. By integrating website creation, project management, and analytics, CloudCreek streamlines workflows, boosts productivity, and supports agency growth.

157	245	Atharv Patil, Jay Talawadkar ,Yogesh Tandel , Aryan Meher ***Smart Traffic Management System with Automatic EV charging system***

Abstract–This paper presents the architecture, design and development of an integrated AI-powered job search and placement tool leveraging several smart technologies aiming to streamline the process of job searching and college placements. The tool's architecture centers around a large language model used for natural language processing. This intelligent system aims to streamline the process of job search and placements by eliminating the need for human intervention in the placement process responsible for creating bureaucratic backlogs. The proposed tool aims to bridge the gap between traditional placement available in colleges and universities, and the fast- paced job market by offering an efficient platform to fast- track the slow and arduous process of job searching. By providing an efficient and accurate tool for resume checking and matching skills to jobs profiles the bureaucratic parts of most job processes are eliminated. Additionally, the tool incorporates a keyword-based system for identifying skills within a candidate and matches them to the skills required for a specific job description. By providing a holistic solution to the bureaucratic problem of modern placements, the tool greatly reduces the time required to fulfill a job role,Keywords—AI, Large language model, Natural language processing, Job Search, Placements

Sr. No.	Paper ID	Title
158	246	Isha Pawar, Nishit Prabhu, Prapti Mayekar ,Sakshi Suthar, Surabhi Laharia ***Cloud Gaming With Project Calico***

Abstract–Cloud gaming has emerged as a transformative solution for delivering resource-intensive gaming experiences without the need for purchasing and maintaining expensive hardware. This paper explores the architecture, performance, and potential of cloud gaming, focusing on key components such as remote server processing, low-latency internet connections, and automating virtual machine provisioning. We examine recent advancements, challenges, and opportunities in the cloud gaming landscape, highlighting innovations from major players like Meta and Amazon Web Services. By exploring different methods, including virtualization techniques and adaptive video streaming frameworks, here we make an attempt at optimizing cloud gaming systems for performance and scalability.

Sr. No.	Paper ID	Title
159	248	Soham Rane ,Ishika Sanap,Aditya Soni,Mrunal Shekade,Natasha Naik ***AI Assisted Placement Tool***

Abstract–This paper presents the architecture, design and development of an integrated AI-powered job search and placement tool leveraging several smart technologies aiming to streamline the process of job searching and college placements. The tool's architecture centers around a large language model used for natural language processing. This intelligent system

aims to streamline the process of job search and placements by eliminating the need for human intervention in the placement process responsible for creating bureaucratic backlogs. The proposed tool aims to bridge the gap between traditional placement available in colleges and universities, and the fast- paced job market by offering an efficient platform to fast- track the slow and arduous process of job searching. By providing an efficient and accurate tool for resume checking and matching skills to jobs profiles the bureaucratic parts of most job processes are eliminated. Additionally, the tool incorporates a keyword-based system for identifying skills within a candidate and matches them to the skills required for a specific job description. By providing a holistic solution to the bureaucratic problem of modern placements, the tool greatly reduces the time required to fulfill a job role.Keywords—AI, Large language model, Natural language processing, Job Search, Placements

Sr. No.	Paper ID	Title
160	249	Sandip Zade, Ulhaskumar Gokhale, Prajkta Pawar, Dhanashree Pannase *IOT enabled Locking Device for Vehicle*

Abstract-The IoT-Enabled Locking Device for Vehicles is an innovative locking system designed to enhance vehicle security through Internet of Things (IoT) technology. This device integrates with a vehicle's existing locking mechanism and provides remote control and monitoring capabilities via a smartphone app or web interface. By leveraging advanced connectivity and smart technology, the IoT-enabled locking device offers a secure, user-friendly solution for vehicle access and security.

Sr. No.	Paper ID	Title
161	250	Surabhi Laharia, Abhishek Laharia *Core Elements of Machine Type Communication in 6G*

Abstract–As 5G continues to be deployed worldwide, research teams across the globe have already begun to explore the future of the sixth generation (6G). The vision for 6G is centered around a data-driven society, with nearly instantaneous, unlimited wireless connectivity. A key driver of 6G development is the need to deliver specialized wireless network solutions for various industries. Machine-type communication, which includes both mission-critical and massive connectivity, is expected to play a crucial role in shaping 6G. This paper outlines the overarching vision for machine-type communication in 6G networks, beginning with a discussion of relevant performance indicators and followed by an exploration of the key enablers.

Sr. No.	Paper ID	Title
162	254	Jyoti Mali, Mohan Kumar, Bhavin Shah, Ankit Deogharkar, " *Leveraging Quantum Mechanics for secure Communication: A comprehensive Study of Quantum Key Distribution*

Abstract-Quantum Key Distribution (QKD) represents a revolutionary approach to secure communication, utilizing the principles of quantum mechanics to establish cryptographic keys that are fundamentally secure against eavesdropping. This paper provides a comprehensive

study of QKD, detailing its theoretical foundation, practical implementations, challenges, and future potential. By bridging the gap between quantum physics and information security, QKD has the potential to redefine the landscape of secure communication in the era of quantum computing [1][2][3].

Sr. No.	Paper ID	Title
163	255	Vedant Farkade, Aditya Sansare, Ayush Sonar, Akash Kolakkal, Charmi Chaniyara ***Bluetooth-Based Retail Analytics Using Customer Tracking***

Abstract-This paper presents a Bluetooth-based system for real-time customer tracking within supermarkets, addressing the growing need for data-driven decision-making in the retail industry. Traditional methods of understanding customer behavior, such as surveys or manual counting, are time-consuming and lack accuracy. The proposed system leverages Bluetooth technology to detect and anonymously track customer devices, providing real-time data on movement patterns, repeat visits, dwell time, and high-traffic areas. The collected data is processed into actionable insights, including heat maps, customer journey analysis, and behavioral segmentation. These insights enable supermarket management to optimize store layouts, improve inventory placement, and design targeted marketing strategies, enhancing both operational efficiency and customer satisfaction. The system is designed to be simple, cost-effective, and privacy-preserving, making it adaptable for various retail environments with minimal disruption.Abstract

Sr. No.	Paper ID	Title
164	257	Rupali Patil , V.V.Dixit, ***Enhancing Breast Cancer Detection with Deep Learning: Comparative Analysis of Multiview Features Using ResNet-50 and VGG19***

Abstract–This study assesses the ability of the deep learning architectures ResNet-50 and VGG19 to distinguish between benign and malignant lesions for breast cancer detection. Mammogram multiview features, which combine complementary viewpoints, are critical for early identification because they improve lesion visibility while decreasing tissue overlap. Using a large, labeled dataset, the models were evaluated for accuracy, true positive (TP), and true negative (TN). ResNet-50 outperformed VGG19, achieving 96% accuracy, because to residual connections that improved feature extraction and convergence. While VGG19 did well overall, it struggled to recognize benign situations, resulting in lower accuracy in such scenarios. These findings highlight the need of robust model architecture and the incorporation of multiview features in breast cancer diagnosis. Future research should focus on larger datasets and advanced techniques to further improve diagnostic precision and leverage multiview analysis for early and accurate detection.

Sr. No.	Paper ID	Title
165	263	Dubey Roshani Satish,Sejal Dipak Ingale, Akash Mangilal Choudhary,

		Abhishek Bharambe, Deepali Maste ***FastShare:A P2P file sharing platform with cloud storage integration***

Abstract— FastShare is a versatile web platform designed to enhance data sharing in today's digital world, addressing the need for seamless and secure file-sharing solutions. It offers three core features: Peer-to-Peer (P2P) file sharing, torrent-based file sharing, and temporary cloud storage. The P2P feature leverages WebRTC technology for secure, real-time transfers directly between devices, ensuring end-to-end encryption for data privacy. The torrent feature implements the WebTorrent protocol, allowing users to download large files efficiently from multiple sources while simplifying the user experience. Additionally, temporary cloud storage enables users to share files without permanent commitments, with automatic deletion after a specified period to manage storage effectively. FastShare prioritizes security and user privacy through robust encryption, is cross-platform compatible, and includes advanced features like file size monitoring and transfer speed optimization, catering to both novice and advanced users. improvements or additional features that could be incorporated in future versions of FastShare.

Sr. No.	Paper ID	Title
166	266	Rohit Surve,Vivek Sharma,Vishwas Singh,Tanmay Sonawane Deepali Maste ***An Integrated NextJs Platform for Chat, Code & Media Generation using LLM Models***

Abstract-This paper presents the design, implementation, and evaluation of a unified Software as a Service (SaaS) platform consolidating multiple advanced artificial intelligence (AI) tools. The platform integrates intuitive user interfaces with functionalities such as chat-based conversational AI, code generation, text-to-image generation, Image Transformation, and text-to-audio generation. Results demonstrate notable improvements in enabling seamless transitions between AI functionalities, customizing use cases, and integrating AI outputs into various projects. This approach highlights the potential for simplifying workflows and enhancing productivity through a unified AI ecosystem.

Sr. No.	Paper ID	Title
167	268	Mohan Kumar, Jyoti Mali, Bhavin Shah, Ankit Deogharkar ***Applying Augmented Reality in the Fight Against the COVID-19***

Abstract-The COVID-19 pandemic has created an unprecedented global crisis, deeply affecting healthcare systems, economies, and societies. Innovative technologies have become essential in addressing these multifaceted challenges, and Augmented Reality (AR) has emerged as a transformative solution. AR's capacity to seamlessly integrate digital elements into the physical world offers novel applications in healthcare, education, logistics, and public safety. This paper explores the expansive role of AR in combating the COVID-19 crisis, providing an in-depth analysis of its applications, benefits, challenges, and future directions. By presenting detailed case studies and examining technical, social, and ethical dimensions, this study demonstrates AR's potential to revolutionize pandemic response strategies.

Sr. No.	Paper	Title

	ID	
168	269	Aayushi Tandale,Aayushi Tandale, Manav Shinde, Dheeraj Rapelli, Kavita Bani ***ABIVS: Automated Business Intelligence and Visualization System***

Abstract–Automated business intelligence plays a crucial role in modern decision-making by streamlining data processing and visualization. This project, Automated Business Intelligence and Visualization Using Python, on automating the extraction, transformation,and loading of business data to improve efficiency, accuracy, and scalability. Traditional methods rely on manual data handling, which is time-consuming, error-prone, and inefficient for large datasets. The proposed system overcomes these limitations by leveraging Python for automation, Pandas for data processing, Power BI for interactive dashboards, and Power Query for seamless data integration. The system automates data collection,cleans raw data, performs trend analysis, generates financial reports, and visualizes insights through real-time dashboards. Predictive analytics further enhances decision-making by forecasting future trends. This approach eliminates manual intervention, reduces human errors, and enables businesses to make data driven decisions with improved accuracy. The solution is scalable, allowing organizations to process increasing data loads efficiently. However, challenges such as data quality dependency, integration complexities, and computational resource requirements must be addressed for optimal performance. By integrating automation and visualization, this project transforms raw business data into actionable insights, facilitating strategic decision-making in a rapidly evolving business environment.

Sr. No.	Paper ID	Title
169	270	Chetana Rane, Rasika Kulkarni, Smita Bhanap, Lakhichand Khushal Patil ***The Impact of ChatGPT on Student Learning: Enhancing Education or Encouraging Dependency?***

Abstract– One of the most significant and impactful innovation strategies of this century is artificial intelligence (AI). It affected every business in different ways, including the food industry, retail education, banking, healthcare, and the automotive sector, among many others. AI has emerged as one of the major issues confronting our world today, affecting everything from the appropriate use of technology to the quality of services provided to the future of many jobs. Education is one of the sectors most affected by AI, where it can occasionally have negative effects as well as positive effects. This work investigates the effects of a sophisticated AI language model, like ChatGPT, on students' learning. Understanding how digital technologies like ChatGPT influence student behavior, performance, and learning experiences is becoming more and more important as they become more popular in educational settings. In order to evaluate the advantages and disadvantages of using ChatGPT in educational settings, this study looks at the answers to a survey form that was completed by 315 students. It looks into whether using ChatGPT as a learning tool can make students dependent and offers solutions for implementing ChatGPT in classrooms while addressing its drawbacks using machine learning models like random forest and XGBoost classifiers. The random forest model performs well with 98% accuracy whereas XBoost 96%.

Sr. No.	Paper	Title

	ID	
170	271	Smita Raghvendra Bhanap, Rasika Kulkarni, Lakhichand Patil, Kalpesh Popat ***Identifying Mental Health Status Using Machine Learning Model Based on General Psychopathology***

Abstract-The widespread changes in lifestyle and burdens lead to increase in mental health issues which need to be addressed properly. It is therefore required to design and develop applications which will help diagnose and monitor mental health status. Also, recommendations for further treatment need to be considered. This study aims at the design and development of a prediction model based on classification using machine learning algorithms. Various important parameters responsible for mental health issues are considered in the feature selection and prediction model constructed using decision tree and random forest classifier. Also, recommendations which can further be supervised by clinicians for treatment can be provided. Based on the experimental results, it is observed that the decision tree classifier model performs better with accuracy of 95% whereas ransom forest gives comparatively less accuracy of 74%. The proposed model can help in predicting mental health status of a person and help for relevant clinical diagnosis.

Sr. No.	**Paper ID**	**Title**
171	273	Shivam Whatkar, Kaushal Gawad, Shreyas Jadhav ,Vignesh Thuppada, Natasha Naik ***Heart Disease Prediction using Machine Learning***

Abstract–Heart disease remains one of the leading causes of mortality worldwide, making early and accurate prediction critical in the medical field. With the increasing volume of healthcare data, data science and machine learning have become essential tools for improving diagnostic accuracy and automating the prediction process. Early detection can help reduce risks and provide timely intervention for patients. In this study, we compare the performance of four commonly used machine learning algorithms—Logistic Regression, Decision Tree, Random Forest, and K-Nearest Neighbors (KNN)—to determine the most effective model for heart disease prediction.Using key patient health parameters, we evaluate these models based on accuracy, precision, recall, F1-score, and AUC-ROC.The results indicate that the Random Forest algorithm outperforms the other models, achieving the highest accuracy of 82%. This study highlights the potential of machine learning in medical diagnostics and emphasizes the importance of selecting the right model for predictive healthcare applications.

Sr. No.	**Paper ID**	**Title**
172	276	Vijay Maruti Shelake, Chaitali Mhase ***Next-Gen Predictive Maintenance: A Machine Learning Model for Equipment Reliability with SAP Smart Predict***

Abstract-Predictive Maintenance for Equipment Reliability using Time Series Forecasting with Systems, Applications, and Products in Data Processing (SAP) Analytics Cloud Smart Predict in today's industrial landscape plays a critical role in ensuring uninterrupted operations

and minimizing costly downtime. This research explores the application of next-generation predictive maintenance techniques, specifically time series forecasting, to enhance equipment reliability in an industrial setting. Leveraging the capabilities of machine learning, the research aims to proactively identify potential equipment failures, optimize maintenance schedules, and improve overall operational efficiency. The methodology involves the collection and preparation of historical data related to equipment performance, maintenance records, and relevant operational parameters. This research emphasizes on the significance of feature engineering to enhance the accuracy of the predictive models, considering factors such as operating conditions, temperature, and usage patterns to yield a smart machine learning model for equipment reliability.

Sr. No.	Paper ID	Title
173	277	Chandan Mishra ,Gaurav Mishra, Rahul Pagade, Sonu Yadav, Shikha Malik ***Intelligence Chatbot For Contextual Information Retrieval and Summarization***

Abstract—In recent years, Natural Language Processing (NLP) has seen significant advancements, particularly in the development of language models capable of understanding and generating human-like text. A key metric for evaluating the performance of such models is perplexity, which measures the model's ability to predict the next word in a sequence. This paper presents the development of a Perplexity clone using an external API that leverages state-of-the-art language models to evaluate the perplexity of text samples .Instead of training a language model from scratch, the project utilizes an API to interface with a pre trained model, thereby reducing the computational cost and complexity. The model evaluates text input for perplexity, enabling the measurement of how well the model understands various texts. Additionally, the API supports text generation, allowing for the creation of new text based on a given prompt. The integration process involved sending text data to the API, receiving perplexity scores, and interpreting the results to assess model performance. The evaluation of multiple text samples demonstrated that the Perplexity clone accurately measures the coherence of text, providing a valuable tool for NLP applications such as automated content generation and language model evaluation. The results suggest that API-based solutions offer a viable and resource-efficient alternative to traditional, locally trained models, making advanced NLP tools more accessible.

Sr. No.	Paper ID	Title
174	278	Yogita Deepak Mane, Neeta Prashant Patil, Akshay Agrawal, Sanketi Raut ***Grade Guru: Digital Transformation of Examination Management System***

Abstract-Grade Guru offers a paradigm shift in the administration of student examinations within educational institutions. Designed to mitigate challenges associated with access rights and privileges, Key functionalities include role based authentication, seat number allocation, user role assignment, mark calculation, hall ticket generation, gazette generation, Marksheet generation, reminder mail for revaluation, locking the dashboard before the result generation

aimed at streamlining processes, and ensuring accuracy in examination management. This work underscores the significance of modernizing administrative processes to meet the evolving needs of educational institutions. Through innovative solutions and efficient implementation, it demonstrates the capacity of technology to enhance operational efficiency and facilitate effective management of student examinations. This research work provides a facility to define role based access to each legitimate user. Admin assigns roles; HoD adds subjects; subject in charges will adds marks, and all the notifications are managed by admin. Overall, the Grade Guru empowers institutions to deliver examinations with greater efficiency and effectiveness, ultimately contributing to the success and advancement of students and educational programs. Proposed system gives 89.16 % Efficiency, 97.05% Accuracy, Misclassification is 2.5%, 89% Precision, and 97.02% recall for 100 different test results of SGPI, CGPI, and Percentage calculation.

Sr. No.	Paper ID	Title
175	283	Pallavi Mane,Kirti Mahajan, Jaydeep Patil,Yayati Shinde *AI-Driven Approaches for Polycystic Ovarian Syndrome (PCOS) Diagnosis: A Comprehensive Review*

Abstract— Afflicting about 1 in 14 women of reproductive age globally, Polycystic Ovary Syndrome (PCOS) has seen a concerning rise in India over the past two decades. This condition, a major contributor to female infertility, depends on accurate follicle size and number assessment, traditionally done through ultrasound scans. However, manual analysis is both time-consuming and error-prone due to speckle noise in the images. Enter automated image segmentation, wielding the power of data mining, image processing, and machine learning, particularly convolutional neural networks (CNNs). This technology promises a revolution in PCOS diagnosis by automatically analysing ultrasound images, leading to faster, more accurate follicle detection and ultimately, effective treatment. This review delves into the exciting world of PCOS detection methods utilizing these cutting-edge tools. We explore promising techniques showcased in existing research, highlighting their potential to revolutionize how we identify follicles and diagnose PCOS. From leveraging deep learning algorithms to incorporating spatial information, the future of PCOS diagnosis is brimming with possibilities. By embracing these innovative techniques, we can not only improve the accuracy and efficiency of PCOS diagnosis but also unlock new avenues for research and treatment, bringing hope to millions of women worldwide.

Sr. No.	Paper ID	Title
176	285	Shubham Kumar, Satyam Vishwakarma, Kiruthika B *SmartAttend : Face Recognition & Analytics with Email Alerts*

Abstract—This paper introduces an innovative attendance monitoring system developed using the MERN (MongoDB, Ex press.js, React, Node.js) stack, which leverages facial recognition technology through the Face API. The primary objective of this system is to automate and enhance the accuracy of attendance tracking in educational and organizational environments. By employing real-time facial recognition, the system captures attendance data efficiently, minimizing the need for manual input. Additionally, the project incorporates a data analysis module that processes attendance records and generates insightful reports. These

reports are automatically disseminated to relevant stakeholders via email, ensuring timely communication and facilitating informed decision-making. The architecture of the system is designed for scalability and security, utilizing MongoDB for robust data storage and Express.js for seamless server-side interactions. Preliminary results indicate that the proposed system significantly reduces administrative overhead while improving the reliability of attendance records. This work contributes to the growing field of automated attendance systems and highlights the potential of integrating advanced technologies for enhanced operational efficiency.

Sr. No.	Paper ID	Title
177	286	Vijay Shelake, Rajashree Salokhe *A Scheme for Ontology Matching*

Abstract—Today, due to the storage availability across heterogeneous environments, the data is scattered in many database systems as per the requirements of organizations. There are heterogeneity problems while collecting, matching and consolidating such data. Therefore, we present an effective scheme for ontology mapping based on Top-K ontology matching framework. This scheme matches ontology designs that are heterogeneous in nature and effective due to its hierarchical structure.

Sr. No.	Paper ID	Title
178	287	Bharat B. Waghode, Ramesh Kulkarni *Design And Analysis Of Disc Type Magnetic Coupling For The Central Force And Retire Torque*

Abstract—This paper analyses the retire torque and axial(centre) force of a circular enduring magnetic coupling under balance conditions. The coupling utilizes permanent magnets. The retire torque and central force are determined by varying the air space among the two discs as a purpose of geometrical factors. The conclusion demonstrate that an increment in the air gap length leads to a decrement in both retire torque and central force. Experimental results are validated through measurements performed on a prototype.

Sr. No.	Paper ID	Title
179	288	Ayushi Rana,Yogita Pardeshi, Mohd Zaid Pathan, Snehal Bhaigade *AI-Based Facial Recognition System A Deep Learning Approach for Identifying Missing Persons Using CNN*

Abstract-Across the globe, countless individuals, including children, teenagers, and the elderly, go missing, often without receiving adequate recognition or support in locating them. This system leverages facial recognition technology to streamline the search process. When a person goes missing, their photograph can be submitted by family members, acquaintances, or law enforcement to be stored in a dedicated database. If a member of the public encounters someone they suspect to be missing, they can submit an image of the individual through the system's interface. Using facial encodings, the facial recognition model analyzes the submitted image and compares it with those in the database to identify potential matches. If a match is

detected, the relevant parties connected to the missing person are notified. Furthermore, individuals who spot someone they believe to be missing can provide additional information, which is then reviewed by the system. This process allows for verification of the claim and aids in confirming the identity of the missing person, enhancing the accuracy and effectiveness of the system.

Sr. No.	Paper ID	Title
180	291	Mohammed Zoheb Ansari, Aryan Vangolla ***SuperCert - An Anti-fraud Identity Intelligence Blockchain Solution for Educational certificates***

Abstract-The last few years have seen an increase in the circulation of fake educational certificates that has proven to be challenging for academic institutions, employers, and individuals. Such certificates are because of numerous reasons which impacts not only the credibility of the educational accomplishments attained by such individuals but also breaches the integrity of various industries. In order to address such a problem, this research presents SuperCert, an award winning identity intelligence blockchain solution designed specifically for educational certificate anti-fraud. With SuperServ, blockchain technology becomes the tool to create and maintain a non-centralized ethereal ledger to store academic credentials. This structure of SuperCert suggests that no single person or entity can tamper with or corrupt the information. Once educational credentials are issued on the Super Cert blockchain, they are permanently recorded and cannot be edited or deleted.

Sr. No.	Paper ID	Title
181	292	Deepali Maste, Leena Ragha,Ujjwal Rao, Jignesh Rana ***Advancing Secure Access Control Models for Personal Health Records: Integrating RBAC, ABAC, and Contextual Access***

Abstract-PHRs (Personal Health Records) facilitate the consolidation of individuals' medical histories into a single digital repository. Many stakeholders in the healthcare system, including surgeons, general practitioners, medical laboratory technicians/technologists, pharmacists, and others, require access to medical documents to collaborate effectively for accurate diagnosis. Access control methodologies, particularly Role-Based Access Control (RBAC) and Attribute-Based Access Control (ABAC) are widely employed in the health- care sector. A robust and secure PHR system is essential for facilitating paperless transactions within the healthcare sector. Ensuring the reliability and security of medical records is pivotal for building trust among users. Healthcare institutions are striving to establish secure healthcare information systems that maintain patients' medical histories while ensuring convenient ac- cess. However, patients often have limited control over their medical documents. Building trust among users to adopt PHRs necessitates the implementation of a resilient and secure PHR system. The objective of this study is to recommend the most suitable access control model for securely accessing PHRs. The integration of ABAC typically involves leveraging RBAC, albeit com- pliance requirements may inflate costs and complexity due to RBAC's high level of abstraction. In our pro- posed system, we advocate for the combined utiliza- tion of RBAC and ABAC alongside contextual access control. Ciphertext-Policy Attribute-Based Encryption (CP-ABE) is deployed to encrypt and safeguard documents. We employ trust factor

calculations to gov- ern access based on extracted document information. This system has been successfully implemented under specific access control scenarios and yields satisfactory outcomes.

Sr. No.	Paper ID	Title
182	294	Chaitanya Dandekar, Khyati Nalawade, Roshan Dalvi, Bhavin Shah ***Transforming Retail Efficiency with Intelligent Vending and Real-Time Inventory Management System***

Abstract-The proposed paper is based on the technology of a smart vending solution that leverages Internet of Things (IoT), machine learning, and cashless payment technologies to enhance vending machine efficiency, user experience, and operational management. Our proposed solution incorporates inventory tracking, a user-friendly interface, cashless transactions and remote monitoring capabilities to reduce downtime, optimize stock levels and ensure enhanced accessibility. The project envi- sions a future where vending machines go beyond convenience, becoming intelligent, environmentally sustainable, and adaptable to diverse consumer needs, redefining automated vending for modern consumer needs.

Sr. No.	Paper ID	Title
183	295	Rohan Naikwade, Azim Rathod, Sabil Sayyad, Nikhil Sahejrao, Bhavin Shah ***Enhancing efficiency through the development of a 2-DOF robotic arm system for integrated management solutions***

Abstract-The proposed paper explores the integration of Internet of Things (IoT) and robotics to develop a Smart Robotic Logistics Management System aimed at enhancing warehouse and supply chain operations. By combining IoT-enabled sensors, robotic manipulators, and cloud platforms, the system enables real-time monitoring, predictive analytics, and autonomous task execution for inventory management, material handling, and order fulfillment. The design and development of a 2-degree-of-freedom robotic arm, including kinematic analysis, are also discussed. This system enhances operational efficiency, reduces human error, and supports intelligent decision-making, providing a foundation for more autonomous and cost-effective logistics solutions.

Sr. No.	Paper ID	Title
184	296	Shravan Poojari, Rohan Oza, Krish Bhatt, Kiruthika B ***Blockchain Based Crowdfunding***

Abstract— Crowdfunding has emerged as a popular method for raising funds for various projects, but traditional platforms often face challenges such as lack of transparency, high fees, and fraud. This paper explores the integration of blockchain technology into crowdfunding, which offers enhanced security, transparency, and efficiency. We present a comprehensive analysis of three distinct blockchain-based crowdfunding models, highlighting their mechanisms, benefits, and potential challenges. Our findings indicate that blockchain can significantly improve the crowdfunding landscape, providing a more reliable and accessible

platform for both project creators and investors. The study also discusses the implications of smart contracts and decentralized applications (dApps) in streamlining the crowdfunding process, ultimately fostering a more inclusive financial ecosystem.

Sr. No.	Paper ID	Title
185	298	Niranjan Samudre *Linear System Identification from Input-Output Data*

Abstract- Linear system identification is a critical aspect of control engineering and signal processing, enabling the modeling of dynamic systems based on input-output observations. This paper explores state-of-the-art methodologies and frameworks in linear system identification, including both theoretical advancements and practical applications. Some of the recursive (on-line) algorithms are also studied. Simple demonstrations are performed to support these aspects. The study also highlights challenges in real-world system identification, such as handling uncertainties, noise, and large-scale datasets. Finally, future research directions are proposed, emphasizing the role of artificial intelligence and real-time adaptive modeling.

Sr. No.	Paper ID	Title
186	299	Shishir Shetty, Kartik Shetty, Ashish Bera, Junaid Shaikh , Snehal Kale, Diksha Hurkat *Agro farm cart using AI Automated negotiation Chatbot*

Abstract–This project focuses on the development of an innovative e-commerce platform specifically tailored for a farm website, aimed at connecting consumers directly with farm products (B2C). The platform integrates an AI-powered automated negotiation chatbot, designed to enhance the purchasing experience by simulating real-time negotiations between consumers and the platform. By automating negotiations, the system provides dynamic pricing, improves customer engagement, and boosts conversion rates. This model not only reduces operational costs but also fosters stronger consumer relationships, enabling farmers to sell their products efficiently customer satisfaction.

Sr. No.	Paper ID	Title
187	300	Om Ajay Gadekar, Pooja Balwant Jadhav, Atharv Ajay Gholap , Diksha Hurkat , Anuradha Kapoor, Snehal Kale *Chaiology: MERN Based Voice Ordering and AI Reserved System*

Abstract- Today's Fast Paced World Customers often find it difficult to access a wide variety of high-quality beverages and related products conveniently. Chaiology is a sponsored project using to develop an all-inclusive digital platform. This innovative project aims to be an interactive web application that offers a wide number of features related to the histories of tea and coffee, together with the features Voice Ordering and AI Reserved System that Predict the Busy and Seat Booking Feature. This application, therefore, should provide a very responsive user interface and seamless front-end and back-end integration functionality. MongoDB will enable efficient data storage and management, while Express.js and Node.js will provide a scalable server-side environment for handling requests and interactions. React will deliver an

engaging and intuitive front-end experience, Web Audio API for recording and Web RTC for building Voice Ordering Feature Sponsored by Sasha Jain, Chaiology aims to bridge the gap between traditional offline store and modern digital accessibility. Ultimately, Chaiology is about creating a greater appreciation for connecting people while also addressing the challenges and opportunities of the industry today.