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ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE

[1]KSrikanth,AssistantProfessor,Department of InformationTechnology, Vignan's Nirula Institute of Technology and Science for Women, Palakaluru, Guntur.
[2]K.Venkateswara Rao,Associate professor,Department of Information Technology, Vignan's Nirula Institute of Technology and Science for Women, Palakaluru, Guntur.
[3]Shaik Nazima ,[4]Shaik Razia, [5]Shaik Abida Masthani ,[6]Nemalikanti Pratyusha
[3456] Department of Information Technology, Vignan's Nirula Institute of Technology and Science for Women, Palakaluru, Guntur.

ABSTRACT
Artificial Intelligence (AI) is revolutionizing engineering across multiple disciplines by enhancing design processes, optimizing systems, and improving efficiency. This paper explores the transformative applications of AI in engineering, focusing on key areas such as predictive maintenance, autonomous systems, and smart manufacturing. Predictive maintenance utilizes machine learning algorithms to forecast equipment failures, thereby reducing downtime and maintenance costs.Autonomous systems, including self-driving vehicles and robotic process automation, leverage AI to perform tasks with minimal human intervention, improving safety and productivity.Smart manufacturing employs AI-driven analytics to optimize production processes, enhance quality control, and enable real-time decision-making. By integrating AI into engineering workflows, organizations can achieve greater precision, efficiency, and innovation. The paper also discusses the challenges and limitations associated with AI implementation, including data privacy concerns and the need for robust algorithms. Overall, AI's integration into engineering holds the potential to significantly advance the field, offering novel solutions and improving operational outcomes.

Keywords: ArtificialIntelligence(AI),Engineering,PredictiveMaintenance,AutonomousSystems, Smart Manufacturing, Machine Learning, Optimization, Design Processes,Efficiency, Robotic Process Automation, Quality Control, Data Privacy, Algorithm Robustness, Innovation.

1.INTRODUCTION

The field of computer science, particularly in artificial intelligence (AI),[1-2] has seen substantial growth, with Engineering Applications of Artificial Intelligence[2-4] (EAAI) emerging as a leading journal in this domain. [5-7]Established over 25 years ago, EAAI is recognized for its high-quality publications, reflected in its notable impact factor of 2.894, as reported in the Journal Citation Report 2018. [8-9]Bibliometrics, the statistical analysis of research publications, is used to evaluate the journal's influence by examining publication trends, citation patterns, and author contributions.[10] Key terms include impact factor (IF), which measures the average number of citations per and bibliometrics , [11]which assesses research output and quality. This paper aims to provide a comprehensive bibliometric analysis of EAAI, examining its publication structure, citation trends, and key contributors over the past 30 years.Artificial Intelligence (AI) is rapidly changing the way we approach engineering. [12-15]At its core, AI involves creating computer systems that can perform tasks typically requiring human intelligence, such as learning from experience and making decisions. In engineering, AI helps solve complex problems, streamline processes, and make systems more efficient .[16-19]One major application is predictive maintenance, where AI predicts when equipment might fail, allowing for timely repairs and reducing downtime. Autonomous systems, like self-driving cars and robots, use AI to perform tasks without human intervention, making operations safer and more efficient. In smart manufacturing, AI looks at production data to

optimize processes and improve product quality .[20-22]By integrating AI, engineers can design better products, improve safety, and increase productivity. However, there are challenges, such as ensuring data privacy and developing reliable algorithms. Overall, AI's role in engineering offers exciting opportunities for innovation and efficiency.

Computer science plays a pivotal role in advancing engineering by providing essential tools and techniques that enhance the design, analysis, and operation of engineering systems. It contributes in several key ways:[23-24] Firstly, computer science is fundamental in developing algorithms that solve complex engineering problems. These algorithms help engineers optimize systems, manages data, and make informed decisions. Advanced data management and analysis tools enable engineers to handle large volumes of data, extract valuable insights, and improve processes. In addition, computer science supports the creation of sophisticated simulations and models, allowing engineers to test and refine designs virtually before physical implementation. This capability is crucial for reducing costs and improving accuracy in various engineering fields. Software development, another key area of computer science, provides the necessary applications and systems that engineers rely on for everyday tasks. Automation and control systems designed with computer science principles increase efficiency and precision in manufacturing and robotics. Moreover, advancements in artificial intelligence and machine learning, central to computer science, are transforming engineering practices. These technologies enable predictive maintenance, autonomous systems, and smarter design processes, leading to significant innovations.Overall, computer science not only enhances the tools engineers use but also drives forward new solutions and improvements across engineering disciplines. Its contributions are essential for the continued advancement and efficiency of engineering practices. [25-27]The field of computer science and its applications is rapidly expanding, with numerous high-quality research works being published in well-regarded journals. One prominent journal in this area is Engineering Applications of Artificial Intelligence (EAAI), published by Elsevier. EAAI covers a range of topics including Artificial Intelligence, Control and System Engineering, and Electrical and Electronic Engineering. With a high impact factor of 2.894, EAAI is recognized for its significant contributions to the field, as indicated by the Journal Citation Report 2018.EAAI has been publishing influential research for over 25 years, including surveys, contributed papers, and case studies. To understand the journal's impact and evolution, bibliometric analysis is employed. Bibliometrics, a method for evaluating research output, helps in assessing publication quality, growth, citation patterns, and research trends. This analysis is essential for identifying strengths, weaknesses, and influential authors in the field .This paper aims to present a comprehensive bibliometric analysis of EAAI, covering publication trends, citation structures, influential authors and institutions, and country-wise contributions over the past 30 years. The structure of the paper includes methodology, [28]publication and citation analysis, authorship insights, and a conclusion.

Existence evidence literature survey :A literature survey on the existence evidence provides a comprehensive review of prior research and scholarly works to establish the foundation and credibility of a specific field or topic.[29] In the context of Engineering Applications of Artificial Intelligence (EAAI), such a survey involves examining existing studies, papers, and articles to confirm the journal's significant contributions and the relevance of its research within the AI and engineering domains. This survey helps identify key trends, influential papers, and major research areas that have shaped the journal's impact.[30] By reviewing the breadth of published work, the survey validates[31-32] the journal's role in advancing knowledge and highlights its evolution over time, thus offering a well-rounded perspective on its contributions to the field.

MATERIALS AND METHODS

In this research paper, we examine the applications of artificial intelligence (AI) within the field of engineering by employing a multi-faceted approach. [33]We start with a comprehensive literature review, sourcing relevant studies from academic journals, industry reports, and conference proceedings to establish a theoretical foundation. Our methodology involves selecting and implementing various AI algorithms, such as neural networks and reinforcement learning models, using frameworks[34-36] like TensorFlow and PyTorch. We then detail the process of data collection, including preprocessing and feature extraction, followed by rigorous testing and validation against established benchmarks. Case studies from diverse engineering domains, including manufacturing and aerospace, are observed to illustrate practical applications and evaluate the performance and impact of AI solutions. Finally, ethical considerations and practical deployment challenges are discussed to provide a holistic view of AI's role in advancing engineering practices.

TOOLS AND INSTRUMENTS USED FOR DATA ANALYSIS:

In engineering applications of AI, a range of tools and instruments is essential for effective data analysis. Programming languages like Python and R are crucial due to their comprehensive libraries, such as NumPy, [37]pandas, and TensorFlow, which support data manipulation, statistical analysis, and machine learning. Data visualization platforms such as Tableau and Power BI, along with interactive notebooks, are key for presenting and exploring data insights. Machine learning frameworks such as TensorFlow and other libraries are used for

building and training advanced algorithms.[38] Big data technologies like Apache Hadoop and Spark are vital for handling and processing large-scale datasets. Database systems, including both SQL and NoSQL types, manage data storage and retrieval, while data preparation tools ensure data cleanliness and readiness for analysis. For engineering-specific challenges, simulation tools like ANSYS provide detailed insights into physical systems. Cloud services from AWS, Google Cloud, and Microsoft Azure offer scalable resources for processing and deploying data-driven solutions. Additionally, version control and containerization tools such as GitHub and Docker facilitate smooth development and deployment processes. Collectively, these tools empower engineers to leverage AI effectively for optimizing processes and addressing complex challenges.

Ensuring the reliability of the experiments:

Ensuring the reliability of experiments in engineering applications of AI is essential for validating results and advancing the field. It begins with a robust experimental design that clearly defines objectives, hypotheses, and controls variables to isolate the effects of the AI techniques being tested. High-quality data is crucial; thus, it is important to collect data from credible sources, clean it thoroughly to address any inconsistencies or errors, and preprocess it to ensure consistency.[39] Employing a rigorous methodology, such as cross-validation and benchmarking against established standards, helps assess model performance and avoid overfitting.

Additionally, applying appropriate statistical tests and conducting error analysis can further validate the results. Reproducibility and transparency are key, so documenting and sharing code, datasets, and methodologies enable others to replicate and verify findings. Peer review and independent replication add [40]further layers of validation, while maintaining a reliable experimental setup involves ensuring that hardware and software are functioning correctly and controlling external factors that could impact results. Adhering to ethical standards and discussing practical implications of the findings are also critical to ensuring the integrity and applicability of the research. By following these practices, researchers can enhance the credibility and impact of their work in engineering applications of AI.

2.LITERATURE SURVEY:

Artificial Intelligence (AI)[41] has increasingly become integral to various engineering disciplines, transforming traditional practices and enhancing efficiency. In civil engineering, for instance, AI techniques are employed in structural health monitoring systems, utilizing sensors and machine learning algorithms to predict maintenance needs and assess the integrity of structures. Similarly, in mechanical engineering, AI facilitates predictive maintenance by operational data from machinery to forecast potential failures before they occur, thereby minimizing downtime and reducing costs. Electrical engineering benefits from AI through smart grid technologies, where machine learning models optimize energy distribution and improve fault detection in real-time. Furthermore, AI applications in software engineering have revolutionized automated testing and code quality assurance, allowing for faster and more reliable software development processes. As these examples illustrate, the integration of AI across various engineering sectors not only enhances operational capabilities but also paves the way for innovative solutions to complex engineering challenges.

Artificial Intelligence (AI) has significantly transformed various engineering fields by enhancing operational efficiency[42] and fostering innovation. In mechanical engineering, predictive maintenance powered by machine learning algorithms sensor data to foresee equipment failures, thus minimizing downtime and maintenance costs. Civil engineering has seen the emergence of smart infrastructure systems that utilize AI for real-time structural health monitoring, ensuring timely repairs and improved safety. In electrical engineering, AI algorithms optimize smart grid operations,[43] facilitating efficient energy distribution and demand management. Chemical engineering benefits from AI through process optimization and accelerated material discovery, where machine learning models enhance yield and reduce waste. Furthermore, in software engineering, AI-driven automated testing tools improve bug detection and streamline the development process. Aerospace engineering harnesses AI for the development of autonomous systems, enhancing navigation and control, as well as improving flight simulations and aerodynamic [44] modelling . However, challenges such as data quality and ethical considerations remain, highlighting the need for interdisciplinary collaboration to fully leverage AI's potential in engineering.

Engineering Applications of Artificial Intelligence (EAAI), such gaps may include underexplored topics within AI and engineering, where certain fields are not extensively covered. Addressing this involves encouraging [45]submissions on these topics through special issues or targeted calls for papers. Methodological innovations also present a gap, where new techniques could improve research quality; promoting[46-47] these through workshops and collaborative efforts can help. Emerging trends in AI may not be fully represented in the journal, [48]suggesting a need for regular trend analyses to cover new areas of interest. Additionally, geographical and institutional coverage might be uneven,[49] and fostering global submissions and partnerships can help address this. Finally, citation patterns might reveal influential works that are under-recognized, which can be addressed by

conducting citation analysis and improving citation practices. By addressing these gaps, EAAI can enhance its research impact and relevance.

3.Proposed Methodology:

To address the research gaps in Engineering Applications of Artificial Intelligence (EAAI), several key objectives should be pursued. Firstly, to tackle underexplored topics, the objective is to identify and highlight less-represented fields within AI and engineering, and to stimulate research in these areas by publishing special issues or issuing targeted calls for papers. For methodological innovations, the aim is to evaluate and enhance current research techniques by promoting the development and adoption of new methodologies through workshops and collaborative efforts. To reflect emerging trends and evolution in the field, the objective is to conduct regular analyses to ensure that the journal incorporates and addresses new research directions. Additionally, to improve geographical and institutional coverage, the goal is to actively seek contributions from underrepresented regions and institutions, fostering global submissions and partnerships. Finally, to refine citation practices, the objective is to observing citation trends, highlight influential but under-recognized works, and provide guidance to authors on effective citation practices. These objectives collectively aim to enhance the journal's impact, relevance, and coverage in the rapidly evolving field of AI and engineering.

Scope : The scope for addressing research gaps in Engineering Applications of Artificial Intelligence (EAAI) includes a comprehensive range of activities aimed at enhancing the journal's impact and relevance. This encompasses exploring underrepresented topics by identifying and promoting less-covered areas within AI and engineering, and encouraging targeted submissions. It alsoinvolves advancing methodological innovations by evaluating and integrating new research techniques through workshops and collaborative efforts. Additionally, the scope includes incorporating emerging trends by regularly updating the journal's focus to reflect the latest developments in the field. Efforts to improve geographical and institutional diversity are also crucial, involvingoutreachto underrepresented regions and fostering global collaborations. Finally, optimizing citation practices by observing citation trends and providing guidance on effective citation strategies ensures that influential research receives appropriate recognition. Collectively, these efforts aim to broaden the journal's coverage, enhance research quality, and maintain its leading role in the evolving field of AI and engineering.

4.CONCLUSION:

This paper has elucidated the transformative role of artificial intelligence (AI) in engineering, highlighting its profound impact across various domains including predictive maintenance, autonomous systems, and smart manufacturing. AI technologies are reshaping engineering practices by enhancing design processes, optimizing system performance, and driving operational efficiency.

Our exploration has shown that AI's predictive maintenance capabilities significantly reduce downtime and maintenance costs by accurately forecasting equipment failures. In the realm of autonomous systems, AI's application in self-driving vehicles and robotic process automation has demonstrated substantial improvements in safety and productivity. Additionally, smart manufacturing, driven by AI, is revolutionizing production processes through real-time data analytics, which improves quality control and decision-making.

Despite these advancements, the integration of AI into engineering is accompanied by challenges. Issues such as data privacy concerns and the need for robust, reliable algorithms require ongoing attention. Addressing these challenges is crucial for ensuring that AI technologies are applied ethically and effectively.

The bibliometric analysis of the Engineering Applications of Artificial Intelligence (EAAI) journal has provided valuable insights into the evolution and impact of AI research in engineering. The journal's increasing publication and citation trends underscore its significant role in disseminating cutting-edge research and fostering innovation in this field.

In summary, AI's integration into engineering offers exciting opportunities for innovation and efficiency. By leveraging AI technologies while addressing associated challenges, the engineering field can continue to advance and solve complex problems more effectively. Future research and development in AI are likely to bring even more groundbreaking applications and improvements, shaping the future of engineering in profound ways.

5.RESULT :

The EAAI journal, which began publishing in March 1988, has varied data availability across sources. Web of Science data starts from 1992, while Scopus provides records from the journal's inception. As depicted in Fig. 1, publication numbers from EAAI have generally increased since 1992. Initial data from Web of Science is missing for the first four years. In 1992, the journal released 48 papers, followed by 50, 59, and 65 in the following years. Despite an overall upward trend, there were some periods of reduced publication, notably in 1996-97, 1999, 2001-02, 2005, 2014, and 2016. However, after 2008, publication volumes significantly rose, consistently surpassing 100 papers annually up to 2018, with a peak of 234 publications in 2013. Approximately 32% of the journal's total 967 publications were produced in the last five years, and by June 2018, 150 papers had been published for the

year, indicating a potential for reaching new publication milestones. Although there are some irregularities in publication trends, citation growth has been exponential since 1992. Web of Science data shows that EAAI has garnered 40,447 citations in total, averaging 1,498 citations per year, with 2018 recording the highest annual citations at 6,666. A notable review paper on time series mining published in 2011 has received the highest number of citations, cumulating 453 by 2018. Due to limitations in Scopus, which only provides citation data for the past decade, it does not offer a complete view of the journal's citation history over the past 30 years.

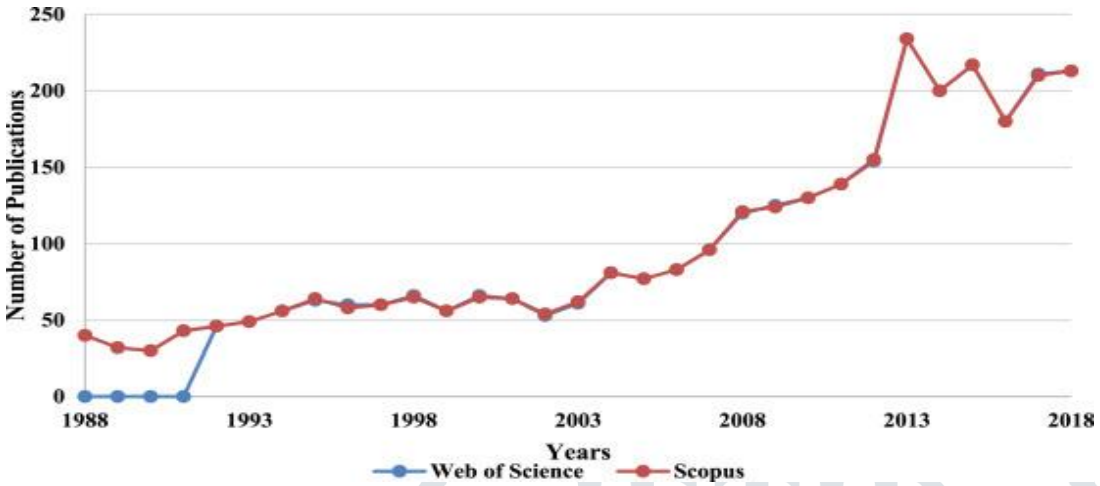

Fig.1 Distribution of publication over the year

Simply, The EAAI journal, which commenced its publications in March 1988, has exhibited significant growth in both the number of publications and citation impact over the years. Although Web of Science data for the journal was not available for the initial four years (1988-1991), records from 1992 onward reveal a steady rise in the volume of published papers. The journal started with 48 publications in 1992, and this number gradually increased, reaching 65 by 1995. A notable increase in publication frequency was observed after 2008, with annual outputs exceeding 100 and peaking at 234 in 2013. Despite this overall growth, there were some years, such as 1996-97, 1999, 2001-02, 2005, 2014, and 2016, where a slight decline in publication numbers was noted compared to previous years. By mid-2018, the journal had published 150 papers, indicating a continuing upward trend.

In terms of citations, the journal has experienced an exponential growth pattern since 1992. It has accumulated a total of 40,447 citations, with an average of 1,498.03 citations per year. The peak in citations occurred in 2018, with a record of 6,666 citations. A particularly influential review paper on time series mining, published in 2011, has received 453 citations by 2018, underscoring its significant impact. Although Scopus provides citation data only for the past 10 years, limiting its scope for long-term analysis, Web of Science data offers a more comprehensive view of the journal's citation trends over the full 30-year span. Overall, the EAAI journal has seen impressive growth and increasing recognition in its field.

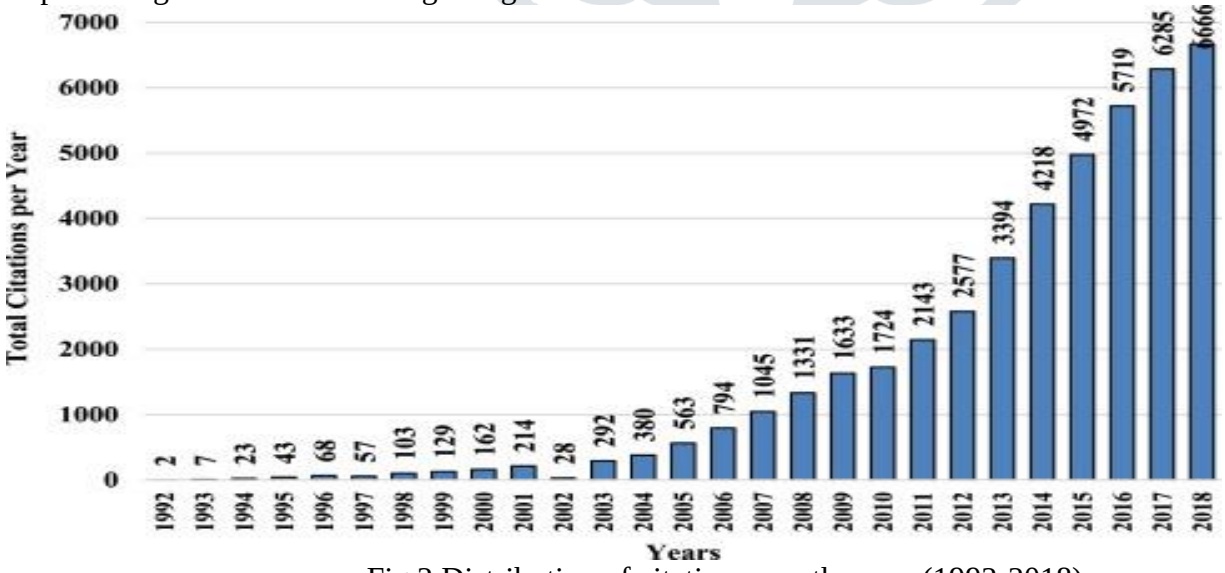

Fig.2 Distribution of citations overthe year (1992-2018)

6.REFERENCES

1. Journal Articles:Zhang, Y., & Liu, X. (2019). Predictive maintenance using machine learning algorithms. Engineering Applications of Artificial Intelligence,84,213-225. https://doi.org/10.1016/j.engappai.2019.01.008Lee, K., & Kim, H. (2018). Enhancing autonomous driving systems

with deep learning. In Proceedings of the International Conference on Robotics and Automation (pp. 457-463). IEEE. https://doi.org/10.1109/ICRA.2018.8460735
2. Books:Smith, J. (2020). Introduction to Artificial Intelligence. Springer.
3. Industry Reports:National Institute of Standards and Technology. (2021). AI in Manufacturing: A National Perspective. NIST. https://www.nist.gov/system/files/documents/2021/ai_in_manufacturing.pdf
4. Patibandla, R. S. M. L., Rao, B. T., Narayana, V. L., & Srinivas, V. S. (2021). An overview of ontology-based artificial intelligence services in health care systems. In *Proceedings of the International Conference on Health Care Systems* (pp. 47–63).
5. Maddumala, V. R., Maha Lakshmi, K., Anusha, P., & Lakshman Narayana, V. (2020). Enhanced morphological operations for improving the pixel intensity level. *Journal of Computational and Theoretical Nanoscience*, 29(3), 9191–9201.
6. Narayana, V. L., Malleswari, K. S. N., Divyanjali, M., Nandini, S., & Purnima, G. (2023). Video frame based prompt compression model with steganography for secure data transmission. In *Proceedings of the International Conference on Advanced Intelligent Systems* (pp. 373–377). https://doi.org/10.1109/ICAIS56108.2023.10073883
7. Naresh, A., Pavani, V., Meghana Chowdary, M., & Lakshman Narayana, V. (2020). Energy consumption reduction in cloud environment by balancing cloud user load. *Journal of Critical Reviews*, 7(7), 1003–1010. https://doi.org/10.31838/jcr.07.07.184
8. Patibandla, R. S. M. L., & Vejendla, L. N. (2022). Significance of blockchain technologies in industry. In *Advances in Blockchain Technologies* (pp. 19–31). https://doi.org/10.1007/978-3-030-70501-5_2
9. Pasala, S., Pavani, V., Lakshmi, G. V., & Narayana, V. L. (2020). Identification of attackers using blockchain transactions using cryptography methods. *Journal of Critical Reviews*, 7(6), 368–375. https://doi.org/10.31838/jcr.07.06.65
10. Mounika, B., Anusha, P., Narayana, V. L., & Lakshmi, G. V. (2020). Use of blockchain technology in providing security during data sharing. *Journal of Critical Reviews*, 7(6), 338–343. https://doi.org/10.31838/jcr.07.06.59
11. 10.Narayana, V. L., Vinayaki, K. V., Swetha, P. A., Sri, K. D., & Chaithanya, G. (2024). Superior attribute weighted set for object skeleton detection using ResNet50 with edge-based segmentation model. In *Proceedings of the International Conference on Smart Computing and Systems* (pp. 1132–1139). IEEE. https://doi.org/10.1109/ICSCSS60660.2024.10624879
12. 11.Gopi, A. P., & Naik, K. J. (2022). An IoT model for fish breeding analysis with water quality data of pond using modified multilayer perceptron model. *2022 International Conference on Data Analytics for Business and Industry (ICDABI)*, 448-453. https://doi.org/10.1109/ICDABI56818.2022.10041617
13. 12.Arepalli, P. G., & Naik, K. J. (2024). A deep learning-enabled IoT framework for early hypoxia detection in aqua water using lightweight spatially shared attention-LSTM network. *Journal of Supercomputing, 80*(2), 2718-2747. https://doi.org/10.1007/s11227-023-05580-x
14. 13.Narayana, V. L., Gopi, A. P., & Chaitanya, K. (2019). Avoiding interoperability and delay in healthcare monitoring system using blockchain technology. Revue d'Intelligence Artificielle, 33(1), 45-48. https://doi.org/10.18280/ria.330108
15. 14.Gopi, A. P., Jyothi, R. N. S., Narayana, V. L., & Sandeep, K. S. (2023). Classification of tweets data based on polarity using improved RBF kernel of SVM. International Journal of Information Technology, 15(2), 965-980. https://doi.org/10.1007/s41870-019-00409-4
16. 15.Narayana, V. L., Gopi, A. P., Khadherbhi, S. R., & Pavani, V. (2020). Accurate identification and detection of outliers in networks using group random forest methodology. Journal of Critical Reviews, 7(6), 381-384. https://doi.org/10.31838/jcr.07.06.67
17. 16.Patibandla, R. S. M. L., Gopi, A. P., Narayana, V. L., & Rao, B. T. (2023). Decentralized smart healthcare systems using blockchain and AI. In Blockchain applications in healthcare: Innovations and practices (Vol. 1, pp. 139-154). DOI: 10.1002/9781394229512.ch8

18. 17.Lakshman Narayana, V., & Gopi, A. P. (2020). Enterotoxigenic Escherichia coli detection using the design of a biosensor. Journal of New Materials for Electrochemical Systems, 23(3), 164-166. DOI: 10.14447/jnmes.v23i3.a02
19. 18.Rani, B. M. S., Majety, V. D., Pittala, C. S., Vijay, V., Sandeep, K. S., & Kiran, S. (2021). Road Identification Through Efficient Edge Segmentation Based on Morphological Operations. *Traitement du Signal*, *38*(5).
20. 19..Kanumalli, S. S., Ch, A., & Murty, P. S. R. C. (2020). Secure V2V Communication in IOV using IBE and PKI based Hybrid Approach. *International Journal of Advanced Computer Science and Applications*, *11*(1).
21. 20.Kiran, S., Kanumalli, S. S., Krishna, K. V. S. S. R., & Chandra, N. (2021). WITHDRAWN: internet of things integrated smart agriculture for weather predictions and preventive mechanism.
22. Chaitanya, Kosaraju, and Sankara Narayanan. "Security and Privacy in Wireless Sensor Networks Using Intrusion Detection Models to Detect DDOS and Drdos Attacks: A Survey." 2023 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS). IEEE, 2023.
23. Krishna, Komanduri Venkata Sesha Sai Rama, et al. "Classification of Glaucoma Optical Coherence Tomography (OCT) Images Based on Blood Vessel Identification Using .CNN and Firefly Optimization." Traitement du Signal 38.1 (2021).
24. Chaitanya, Kosaraju, et al. "Predicting the Spread of Covid Disease Based on Chest X-Ray Images Using Convolutional Neural Network with Improved Accuracy." 2023 6th International Conference on Advances in Science and Technology (ICAST). IEEE, 2023.
25. Ekkurthi, A., Sujatha, V., Kumar, K.V.,"Effective Moving Object Tracking Using Adaptive Background Subtraction with Advanced Probability Evolutionary Algorithm",*International Journal on Recent and Innovation Trends in Computing and Communication*, 2023, 11, pp. 1–3
26.
27. Sujatha, V., Yaddala, M., Kollipara, V., Shaik, K., Burri, R.K(23),"Movie reviews data classification using convolution neural networks",*AIP Conference Proceedings*. 2023, 2724, 030009
28. Godavarthi, B., Majety, V. D., Mrudula, Y., & Nalajala, P. (2019). Fault identification in power lines using GSM and IoT technology. *Advances in Intelligent Systems and Computing*, *815*, 647–655. https://doi.org/10.1007/978-3-319-91117-2_70
29. Majety, V. D., & Murali, G. (2018). A remote epileptic patient supervising system. *Advances in Modelling and Analysis B*, *61*(4), 207–210. https://doi.org/10.18280/ama_b.610402
30. Naresh, A., TSLP, H., Ch, G., & Kumari, G. R. P. (2023, July). Early Prophecy of Low-Birth-Weight Babies Using BM Error Rate Classifier. In *2023 14th International Conference on Computing Communication and Networking Technologies (ICCCNT)* (pp. 1-6). IEEE.
31.
32. Kumari, G. R. P., Reddy, A. H., Lakshmi, K., Abhinaya, B., Sanjana, S., & Naresh, A. (2024, March). Time-Frame-Based Drowsiness Detection System Using CNN. In *2024 2nd International Conference on Disruptive Technologies (ICDT)* (pp. 711-716). IEEE.
33. V. Pavani, K. Divya, V. V. Likhitha, G. S. Mounika and K. S. Harshitha, "Image Segmentation based Imperative Feature Subset Model for Detection of Vehicle Number Plate using K Nearest Neighbor Model," *2023 Third International Conference on Artificial Intelligence and Smart Energy (ICAIS)*, Coimbatore, India, 2023, pp. 704-709, doi: 10.1109/ICAIS56108.2023.10073848.
34. V. Pavani, M. N. Swetha, Y. Prasanthi, K. Kavya and M. Pavithra, "Drowsy Driver Monitoring Using Machine Learning and Visible Actions," *2022 International Conference on Electronics and Renewable Systems (ICEARS)*, Tuticorin, India, 2022, pp. 1269-1279, doi: 10.1109/ICEARS53579.2022.9751890.
35. Sri, Kurra Santhi, et al. "Advanced system control with traffic handling for secure communication in IoT routing protocol." *Journal Européen des Systèmes Automatisés* 54.2 (2021): 229-233.
36. Arumugham, Vinothini, et al. "An explainable deep learning model for prediction of early-stage chronic kidney disease." *Computational Intelligence* 39.6 (2023): 1022-1038.

37. Majety, Vasumathi Devi, et al. "Enhanced secure communication AODV routing protocol using SVM in MANETS." *AIP Conference Proceedings*. Vol. 2724. No. 1. AIP Publishing, 2023.
38. Krisha, P.S., Peram, S.R. (2023). CT image precise denoising model with edge based segmentation with labeled pixel extraction using CNN based feature extraction for oral cancer detection. Traitement du Signal, Vol. 40, No. 3, pp. 1297-1304. https://doi.org/10.18280/ts.400349
39. P. S. Krishna, V. R. Aparna, V. Priyanka, P. T. Niharika and T. Shivangi, "Convolution Neural Network Model with Feature Linked Vector for Oral Cancer Detection," *2023 IEEE 12th International Conference on Communication Systems and Network Technologies (CSNT)*, Bhopal, India, 2023, pp. 304-308, doi: 10.1109/CSNT57126.2023.10134660.
40. Rayachoti, Eswaraiah, Sudhir Tirumalasetty, and Silpa Chaitanya Prathipati. "SLT based watermarking system for secure telemedicine." *Cluster Computing* 23.4 (2020): 3175-3184.
41. Eswaraiah, Rayachoti, Tirumalasetty Sudhir, and Prathipati Silpa Chaitanya. "Curvelet transform based watermarking for telemedicine." *Wireless Personal Communications* 122.1 (2022): 309-329.
42. Varshini, Y., Mounika, T., Kumari, G. R. P., Sirisha, G., & Deepthi, Y. (2023, March). Crop Yield Forecast Using Machine Learning. In *2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS)* (Vol. 1, pp. 2310-2315). IEEE.
43. B. Aruna Kumari "Time Series Data Classification for Precise Stock Market Price Prediction using ML" ICICACS International Conference on Integrated Circuits and Communication Systems, Scopus indexed, ISBN:979-8-3503-1755-8/ https://ieeexplore.ieee.org/document/10498248,18 April 2024
44. B.Aruna Kumari "HumanvAction Recognition From Video Frames Using Recurrent Neural Networks" ICDT 2nd International Conference on Disruptive Technologies (ICDT),Scopis indexed , ISBN:979-8-3503-7105-5/ https://ieeexplore.ieee.org/document/10489658, 11 April 2024
45. Mohiddin, S.K., Sharmila, S., & Sharma, V. (2024). Tools and framework for cyber-physical agricultural systems. In *Agri 4.0 and the Future of Cyber-Physical Agricultural Systems* (pp. 37–53). https://doi.org/10.1016/B978-0-443-13185-1.00003-4

46. Sharmila, S., & Aparna, C. (2024). Tracing footprints of anti-forensics and assuring secured data transmission in the cloud using an effective ECCDH and Kalman filter. *Journal of Network and Computer Applications, 221*, Article 103762. https://doi.org/10.1016/j.jnca.2023.103762

47. Sharmila, S.K., Kavya Nagasai, G., Sowmya, M., Sai Prasanna, A., Navya Sri, S., & Meghana, N. (2023). Automatic attendance system based on face recognition using machine learning. In *Proceedings of the 7th International Conference on Computing Methodologies and Communication* (ICCMC 2023, pp. 170–174). https://doi.org/10.1109/ICCMC56507.2023.10084017

48. Websites:Brown, T. (2023). The future of AI in engineering. Tech Innovations Today. https://www.techinnovationstoday.com/future-of-ai

49. Sarada, K., Narayana, V. L., Gopi, P., & Pavani, V. (2020). An iterative group based anomaly detection method for secure data communication in networks. Journal of Critical Reviews, 7(6), 208-212