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DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF CSE (AI & ML)

ML - INSIDER

Exploring the frontier of
AI&ML

OFFICIAL NEWSLETTER OF
THE AI&ML DEPT.

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SCHOOL OF ENGINEERING

VISION

Transform lives through excellence in engineering education , research and innovation with an emphasis on sustainability, inclusive technologies and global needs.

MISSION

1.Design and deliver contemprary engineering curricula to address regional and global needs while emphasising ethics,values,integrity and religional relevance.

2.Carry out high impact academic research, industry projects and innovation activities with active student engagement to advance science and engineering knowledge and state - of- the-art industry practices.

3.Develop regional and national leaders to advance the society and economy.

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DEPARTMENT OF CSE (AI & ML)

DEPT. OF AI & ML

VISION

To produce graduates in Computer Science and Engineering (Artificial Intelligence & Machine Learning) through excellence in education and research with an emphasis on sustainable eco-system that contributes significantly to the society.

MISSION

The Department Computer Science and Engineering (Artificial Intelligence &Machine Learning) is committed to:

1.Impart quality education through the state-of-the-art curriculum, infrastructure facilities, cutting edge technologies, sustainable learning practices and lifelong learning.

2.Collaborate with industry-academia and inculcate interdisciplinary research to transform professionals into technically competent.

3.Produce engineers and techno-entrepreneurs for global needs.

DAYANANDA SAGAR UNIVERSITY
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DEAN'S MESSAGE

Dr. Udaya Kumar Reddy K R
Dean, School of Engineering, DSU

BE YOU
BE THE DIFFERENCE!!!

I am delighted that the Artificial Intelligence and Machine learning Program, Department of Computer Science and Engineering is bringing out a newsletter that can provide beautiful insights for students and faculty fraternity. A lot has been happening in the school of computing sciences over the years and one of the significant changes involves this newsletter. our graduate students are doing amazing things in many different areas. In the current issue, you'll meet some remarkable students and faculty who are making a difference in the technical aspects and otherwise. We hope to build this endowment with your support, to afford even more opportunities for students to participate in this important component of their graduate education.
I hope this magazine provides the reader with wonderful insight and I thank the editorial team for their wonderful effort in bringing out this newsletter.

Wish you all the best.

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF CSE (AI & ML)

CHAIRPERSONS'S MESSAGE

Dr. Jayavrinda Vrindavanam V
Professor & Chairperson, AI and ML
SOE, DSU

It is with great pleasure that I am writing this message for Volume-2 Issue 01 of the Artificial Intelligence and Machine Learning Program Newsletter for the academic year 2023-2024. Apart from supporting the dissemination of the Departmental initiatives, the newsletters encourage the students to actively contribute and also support in dissemination of their ideas and activities. The contemporary academic world offers tremendous opportunities for exploration, experimentation and collaboration through the joint initiatives of faculties and students. The forums like newsletters provide a visible platform to reach out the on-going activities to wider audiences, especially students. The newsletter also provides a platform to disseminate emerging focus areas and functions as a medium to display expressions. I am sure that the activities organized by the student clubs, competitive forums, and students' extra-curricular and co-curricular initiatives will now receive an added impetus with the introduction of this newsletter.

The CSE(AIML) as hitherto, has been offering a dynamic activity-oriented learning environment to the students backed by our highly qualified and experienced faculties. I am sure that, these activities will be disseminated through such newsletters.

Best wishes.

DEPARTMENT FACULTY

Dr. Jayavrinda Vrindavanam
Professor & Chairperson

Dr. Jayavrinda Vrindavanam is the Professor and Chairperson of the Department of Computer Science Engineering (Artificial Intelligence (AI) and Machine Learning (ML). She has worked extensively in Industry, Research, and Teaching across India and abroad. Her areas of academic research interest are Pattern Recognition, Artificial Intelligence, Image Processing, Machine Learning etc. After completing of B.E from Mangalore University (1997), Prof. Jayavrinda completed M. E Degree from Mumbai University (2007) and Ph.D from NIT, Durgapur in the year 2013.
Prof. Jayavrinda has been functioning as faculty of Computer Science Engineering and Electronics and Communication Engineering at various Institutes across India and abroad and during this period, Prof. Jayavrinda has received research funding from several organisations. She has more than 50 publications in international journals and conferences which include IEEE and Springer. She continues to be a reviewer of IEEE Access, IEEE Conferences Bangalore and Mumbai sections and IJCRT. She is also nominated into advisory Board Member of the Medicon open access Journal. She has delivered quite a few technical talks at different forums in the area of Machine Learning and its Applications, and current trends in Machine learning. Her research interests are ML approach to speech processing, energy forecasting and application of ML in the area of behavioural science.

Dr. B. S. Rangaraj
Research Professor

Prof. B. S. Rangaraj is a research professor in the CSE (AI & ML) department. He holds a Bachelor's degree in Mechanical Engineering from UVCE-affiliated Bangalore University (1983), a Master's from the Indian Institute of Technology, Madras, and a Ph.D. from Kansas State University, USA (1992). He was a visiting professor and post-doctoral scholar at the University of California, Berkeley (1992-1993). His doctoral research focused on Artificial Intelligence in engineering design. Prof. Rangaraj has mentored over 500 engineers and students in software engineering, specializing in Design Manufacturing, Analysis, and Product Data Management. He served as a visiting professor at VTU Post Graduate Studies (2013-14) in Design Optimization and provided consultancy and training in Advanced Computer Technologies for Fortune 100 companies. His innovative training methods in engineering and software have been applied in projects for Fortune 500 customers. He has delivered invited talks on Automation, Data Management, AI, and Mathematics at institutions like UVCE, BMSCE, and CMR Institute of Technology.

Prof.Sanjeev Kumar
Professor of Practice

Sanjeev Kumar with more than 25 years of industrial research in various positions at Motorola, Philips, Texas Instruments, Honeywell, Hindustan Aeronautics and as entrepreneur foundering CEO of start-up BioCOS Life Sciences (www.biocosls.com) has experience in wide areas of interdisciplinary research of machine and intelligent statistical data learning for healthcare, computational biology, big intelligent genomics data processing (high throughput genomics and bioinformatics NGS data), applied mathematics, expert in software and algorithms developments, image/video/speech processing with demonstrated performance in the form of various research publications in journals of repute like Nucleic Acid Research(NAR), Nature Scientific Report, Febs Letters, Journal of Biological Chemistry and Epigenetics & Chromatin. He has granted USA patents in areas of speech and image processing from execution of several research projects and products in the industry.

DEPARTMENT FACULTY

Dr. Vegi Fernando A
Associate Professor

Dr. Vegi Fernando A is currently an Associate professor in Computer Science & Engineering (AIML) Program at DSU. Before this, she was an Associate Professor at SCAD College of Engineering and Technology at Computer Science & Engineering Department. She has Completed her UG at Manonmaniam Sundaranar University, Tirunelveli, PG from Anna University and her Doctorate of Philosophy (PhD) in the field of Deep Learning at Anna University, Chennai. She has around 17 years of teaching experience in various domains. She has been a resource person at various FDP's, Speaker at various International and National conferences / workshops. Her areas of interest include Deep Learning, Cloud Computing, Programming and analysis of algorithms.

Dr. Joshuva Arockia Dhanraj
Associate Professor

Dr. Joshuva Arockia Dhanraj is an Associate Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. He previously worked at Hindustan University and as a Post-Doctoral Researcher at Prince of Songkla University, Thailand. He is also an Adjunct Faculty at Chandigarh University and Chief Research Manager at Smart Green Grid Solutions, India. Dr. Dhanraj holds a B.E. in Electronics and Communication Engineering from Anna University, an M.Tech in Mechatronics from VIT University, an MBA in HR from the University of Madras, and a Ph.D. in Mechanical Engineering (Mechatronics) from VIT University. With 5.5 years of teaching, 3 years of research, and 1 year of post-doctoral experience, he has published over 160 papers and filed 18 patents. His research interests include AI & ML, Mechatronics, Machine Fault Diagnosis, Robotics, and Renewable Energy for Sustainable Development Goals.

Dr. Vinutha N
Associate Professor

Dr. Vinutha N is currently working as an Associate professor in the Department of Computer Science & Engineering (AIML) at DSU. Before this, she was an Assistant Professor at Hyderabad Institute of Technology and Management in the Computer Science & Engineering (ET). She has Completed her UG from VTU Belgaum, PG from UVCE, Bangalore University, and Doctorate of Philosophy (PhD) in the field of Machine learning at UVCE, Bangalore University, Bengaluru, Karnataka. She has around 10 years of teaching experience and published 11 research papers at various refereed International Conferences and Journals. She has received Best Paper Award in the Fourteenth International Conference on Information Processing (ICInPro), 2018. She has been a resource person at various FDP's, workshop, and speaker at International conferences. Her areas of interest include Machine learning, Bioinformatics, Image Processing, Data Science.

DEPARTMENT FACULTY

Dr. Monika Goyal
Assistant Professor

Dr. Monika Goyal is currently working as an Assistant Professor in Computer Science and Engineering (AI&ML) department at Dayananda Sagar University, Bangalore, India. Dr. Monika completed her PhD in computer science from G.D. Goenka University, Gurugram, Delhi in year 2021, M. Tech in Electronics & Communications from NIT Jaipur (2014), and B.Tech in Electronics and Communication Engineering from JECRC University, Jaipur (2009), Rajasthan, India. Her research areas are Image Processing, Machine Learning, Deep Learning, and Computer Vision. Dr. Monika has 10 years of research and teaching experience. She has published over 15+ papers in peer-reviewed Q1 SCI(E) and Scopus Indexed Journals and international conferences. She proposed different image contrast enhancement algorithms for improving the quality of raw medical MRI images especially for the brain MRI images and she also developed Auto contrast enhancer, Brain tumour detection and classification model based on deep transfer learning and pre- trained models Inception V3 and Google net.

Dr.Mude Nagarjuna Naik
Assistant Professor

Dr. Mude Nagarjuna Naik is an Assistant Professor in Computer Science and Engineering (AI & ML) at Dayananda Sagar University, Bangalore. He earned his PhD from Kyung Hee University, Seoul, his M.Tech from IIT Hyderabad, and his B.Tech from JNTU Anantapur. His research focuses on Wireless Sensor Networks, Embedded Systems, IoT, and advanced electronics. With 5.6 years of research and teaching experience, Dr. Naik has published over 21 papers and won the Best Paper Award at IDW'22 in Japan. He received a Presidential Scholarship from South Korea and has worked on projects with MOTIE and Samsung. He also scored 93.7 percentile in the GATE exam.

Dr. Sumit Kumar Yadav
Asssitant Professor

Dr. Sumit Kumar Yadav is an Assistant Professor in the Computer Science & Engineering (AI & ML) department at DSU, Bengaluru. He earned his B.Tech in ECE from Gautam Buddh Technical University in 2010, M.Tech in Bio-medical Signal Processing from IIITDM Jabalpur in 2017, and Ph.D. in Image Processing using Deep Learning from IIT (BHU), Varanasi in 2024. Dr. Yadav qualified GATE in 2015 and received the "Teaching Assistantship" fellowship during his M.Tech and Ph.D. He has over twelve years of teaching and research experience at reputed NITs and IITs. Prior to DSU, he served as adhoc faculty in the IT department at NIT Surathkal. His research interests include image/video processing, biomedical signal processing, image dehazing, denoising, and restoration. A member of IEEE Signal Processing Society, Dr. Yadav has published extensively in SCI/SCIE Q1 journals and conferences. He has also reviewed for IEEE Transactions and other leading journals. He received the Student and Early Researcher Conference Fund at TENCON 2020 in Osaka, Japan.

DEPARTMENT FACULTY

Dr.Shreyas Rajendra Hole
Assistant Professor

Dr. Shreyas Rajendra Hole is an Assistant Professor in the CSE AI & ML department at Dayanand Sagar University, Bangalore. He holds a Ph.D. in AI/ML from VIT-AP University, an M.E. in Electronics & Communication Engineering from PRMIT&R, and a B.E. in Electronics and Telecommunication Engineering from Sant Gadge Baba Maharaj Amravati University. His research areas include Renewable Energy, Machine Learning, and DC-DC Converters. Dr. Hole has published three SCI-indexed and three SCOPUS-indexed papers and presented at seven conferences. His accolades include the Chatrapati Shahu Maharaj National Research Fellowship (2021), VIT-AP University Research Awards (2022, 2024), and Best Poster Presentation Award (2023). He has also published seven patents and received the 2nd Prize in the Patent Category at V-INN EXPO'24.

Prof. Subhash Mondal
Assistant Professor

Mr. Subhash Mondal is currently an Assistant Professor in the Computer Science & Engineering (AI & ML) Program at DSU. As before he has served his duty as an Assistant Professor, CSE, Meghnad Saha Institute of Technology, Kolkata, WB, IN, from August 2006 to August 2023. He has obtained his M. Tech (CSE '07), B. Tech (CSE '05), and B.Sc. (Mathematics (H) '02) from the University of Calcutta, IN. He is pursuing his Doctorate of Philosophy (PhD) in the field of Machine Learning, XAI, and Deep Learning in the Healthcare domain from the Central Institute of Technology Kokrajhar (CITK), Assam, in the CSE department from July 2022. He has more than 17 years of teaching experience in CSE domains. Currently, he has published 31 research articles including international Journals, conferences, and Book chapters. He has completed various FDP and MOOC courses for career development. He is a professional member of IEEE and is serving in the capacity of Faculty Adviser for the IEEE CIS SBC and IEEE RAS SBC, DSU. His areas of interest include Operating Systems, Computer Networks, Machine Learning, Design and analysis of Algorithms, Cryptography & Network Security, etc.

Prof.Ayain John
Assistant Professor

Ayain John is an Assistant Professor in the Department of Computer Science & Engineering (AIML) at DSU. Previously, she held a similar position at AMC Engineering College. With over 16 years in academia, Ayain has a strong background in Quality Analysis and Engineering. She holds degrees from Anna University Chennai and is actively engaged in research on Cognitive Machine Learning at Amrita University. Ayain has authored numerous papers on Machine Learning and Deep Learning, receiving accolades such as the Selfless Service Award in 2023 and the Teaching Excellence Award in 2019.

DEPARTMENT FACULTY

Prof.Pradeep Kumar K
Assistant Professor

Mr. Pradeep Kumar K is currently an Assistant professor in Computer Science & Engineering (AIML) Program at DSU. Before this, he was an Assistant Professor at Sai Vidya Institute of Technology at Computer Science & Engineering Department. He has Completed his UG & PG from VTU Belgaum, currently pursuing his Doctorate of Philosophy (PhD) in the field of Reconfigurable Antennas / Wireless Sensor network using various parameters & Machine learning in REVA University Karnataka. He has around 11 years of teaching experience in various domain & 1 years of industrial experience. During his academic profession he has gained a guide recognition certificate by INSEF-2017 for his Project which served the purpose of fishermen safety & secure communication. He has been a resource person at various FDP's, Speaker at various International and National conferences / workshops and has delivered more than 30 talks across Karnataka. His areas of interest include Embedded systems, Internet of Tings, 3 D modelling, Python Programming (AIML & DS), MEMS, Analog & Digital Circuits, Batteries, Solar Circuits, App development etc.

Mr. Sriramkumar
Assistant Professor

Mr. R. Sriramkumar is an Assistant Professor in the Computer Science Cluster (AI & ML) at the School of Engineering, Dayananda Sagar University. Previously, he held positions at Sri Sairam College of Engineering and Kings College of Engineering. He is pursuing a Ph.D. at Annamalai University and holds a B.E. in Computer Science and Engineering from Anna University (2008) and an M.Tech in Embedded Systems from Sastra University (2011). With 12 years of teaching and 1 year of industry experience, he has published eight papers in peer-reviewed journals and participated in 14 conferences. He has also authored books on Python Programming and Grid and Cloud Computing on Amazon Kindle. His areas of expertise include Python Programming, AI & ML, Cyber Forensics, Cloud Computing, Algorithm Design and Analysis, C Programming, OOP, and Software Engineering.

Prof Jeevraj R
Assistant professor

Mr.Jeevaraj R is currently an Assistant Professor in Computer Science & Engineering(AIML) Program at DSU.
Before this, he was a Assistant Professor at SJB Institute of Technology at Information Science & Engineering Department. He has completed his UG and PG from VTU Belagaum. He is currently pursuing his Doctorate of Philosophy(PhD) in the field of Cloud Computing with Security in JAIN University, Bengaluru,Karnataka. He has 6years of teaching experience in various domain & 1year of industrial experience.
His area of interest include on Java Programming, Hands-on knowledge on some of DevOps tools (Linux, Github, Maven, SonarQube, Ansible, Jenkins,AWS,Docker,K8S),Pyhon Programming, Mobile Computing.

DEPARTMENT FACULTY

Prof. Uday Bhaskara N
Assistant Professor

Mr. Udayabhaskara N is an Assistant Professor in the Computer Science and Engineering (AI & ML) department at Dayananda Sagar University. He completed his undergraduate degree from VTU Belgaum and his postgraduate degree from UVCE Bengaluru. As a freelancer, he has worked on various tech solutions, including web app backends (LAMP stack, Flask) and data mining/machine learning using Python libraries like Pandas. His research includes a dissertation on NLP algorithms for sentiment analysis and a project on image enhancement using machine learning. His areas of interest are AI & ML, digital image processing, digital signal processing, and computational philosophy.

Prof Pavithra A
Assistant Professor

Mrs. Pavithra A is currently an Assistant professor in Computer Science & Engineering (AIML) Program at DSU. Before this, she was an Assistant Professor at AMC Engineering College, at Information Science & Engineering Department. She has recieved M.Tech degree in Computer Science and engineering from PES University, Bangalore, in 2020 and BE degree in Information Science and engineering from the PES school of Egineering.She has published 3 International Journal papers and 1 book on Operating Systems. Her research interests include Internet of Things,Artificial Intelligence,Machine learning, and Deep Learning.

Prof Mitha Guru
Assistant Professor

Mrs. Mitha Guru is currently an Assistant professor in Computer Science & Engineering (AIML) Program at DSU. She has 2 years of teaching experience. She received her M.Tech in Data Science from JSS Science and Technology University Mysore in 2019 and B.E in Information Science and Technology from VTU Belgaum. Her areas of interest are Artificial Intelligence, Machine Learning and Deep learning and its applications.She is currently also pursuing her Ph.D from Dayananda Sagar University .

Prof Rakshitha R
Assistant Professor

Rakshita R Completed her M.tech in Computer Science and Engineering from Dayananda Sagar University (DSU) and BE in Information Science and Engineering from Vemana Institute Of Technology,Bangalore.Worked in Studique Company for 9 months. Areas of interest in Computer Vision, Python and Machine Learning.

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DAYANANDA SAGAR UNIVERSITY
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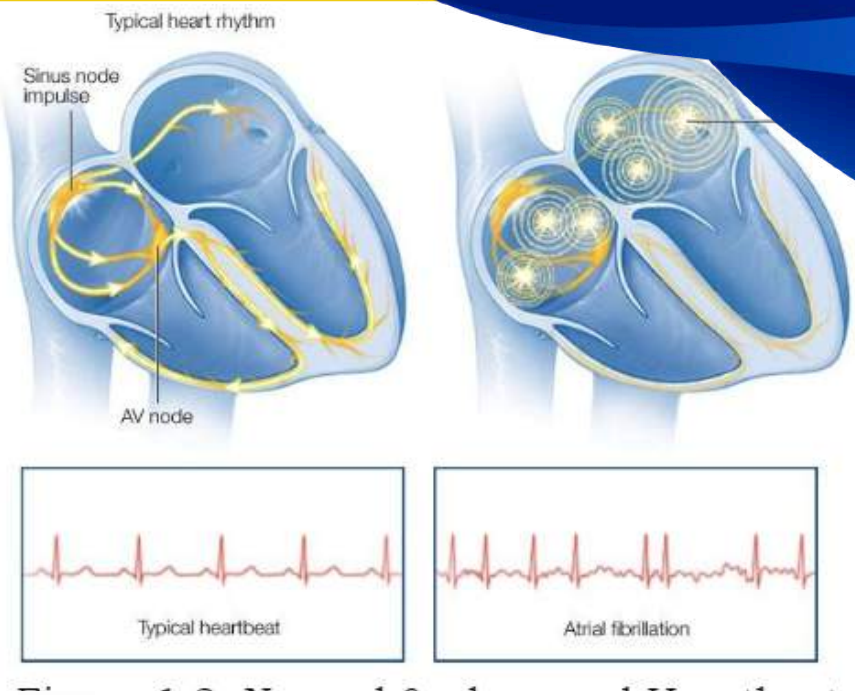
DEPARTMENT ARTICLES

Warning Signs and AI Algorithms for Early Detection of Atrial Fibrillation - WARN

Atrial fibrillation (AFib) stands as a prevalent cardiac arrhythmia, often characterized by irregular and rapid heartbeats. Its recognition as a significant health concern stems from the potential complications it poses, including stroke, heart failure, and other cardiovascular issues. Despite its prevalence and the risks it carries, AFib can often go undetected, leading to untreated cases and exacerbating its adverse effects. However, advancements in medical technology, particularly in the realm of artificial intelligence (AI) algorithms, have presented promising opportunities for the early detection and management of AFib.

One of the primary advantages of leveraging AI algorithms in the detection of AFib lies in their ability to analyze vast amounts of patient data rapidly. These algorithms can process electrocardiogram (ECG) readings, heart rate variability, and other relevant metrics with precision and efficiency, enabling healthcare professionals to identify subtle patterns indicative of AFib. Moreover, AI algorithms can continuously monitor patients remotely, providing real-time insights into their cardiac health and facilitating proactive interventions when necessary. This remote monitoring capability is particularl advantageous for individuals at risk of AFib who may not exhibit overt symptoms , allowing for early detection and intervention before complications arise.

Despite these advantages, the implementation of AI algorithms in AFib detection also presents certain challenges and disadvantages. One notable concern is the need for robust validation and regulatory approval to ensure the reliability and safety of these algorithms in clinical practice. Developing AI models that can accurately differentiate between normal sinus rhythm and AFib while minimizing false positives and negatives requires extensive testing and validation against large datasets. Additionally, there may be logistical and infrastructural barriers to widespread adoption, including the integration of AI systems into existing healthcare workflows and the training of healthcare professionals in their use.



Several AI algorithms have been developed and employed in the detection of AFib, each utilizing distinct methodologies and data sources to achieve accurate results. Machine learning techniques, such as **deep learning neural networks**, have shown promise in **analyzing ECG signals to detect irregular heart rhythms characteristic of AFib**. These algorithms learn from labeled datasets containing ECG recordings from individuals with confirmed AFib diagnoses, enabling them to recognize similar patterns in new data and make accurate predictions. Other AI approaches, such as **support vector machines and random forest classifiers**, have also been explored for AFib detection, leveraging features extracted from ECG signals and clinical variables to identify patients at risk.

In conclusion, the **early detection of AFib is paramount for mitigating its associated risks and improving patient outcomes.** AI algorithms offer a powerful tool for achieving this goal, with their ability to analyze complex data and facilitate remote monitoring. However, their implementation requires careful validation, regulatory oversight, and integration into healthcare systems to ensure their effectiveness and safety. By harnessing the capabilities of AI algorithms in **AFib detection, healthcare providers can enhance their ability to identify at-risk individuals, initiate timely interventions, and ultimately reduce the burden of AFib-related complications on patients and healthcare systems alike.**

Prof. Pradeep Kumar K
Assistant Professor

AI and Bio-Inspired Innovations Transform Solar Energy

With the growing need for renewable energy, solar power is becoming a leading option for sustainable electricity. However, making the most of solar power systems depends on managing their performance efficiently. This article introduces a new AI-powered control model for solar setups, aiming to enhance the performance of solar systems connected to the grid.

This advanced model uses bio-inspired optimizations and integrates multiple control devices like Maximum Power Point Tracker, Proportional-Integral-Derivative, Proportional-Integral, and Fuzzy Logic Controllers.

These devices work together to control solar photovoltaic systems precisely. A vital feature of this model is its predictive control, which uses AI techniques such as LSTM-GRU (Long Short-Term Memory-Gated Recurrent Unit) and VARMA (Vector Auto-Regressive Moving Average) to forecast future solar power generation accurately . This prediction helps improve energy management and boosts system performance for various applications.

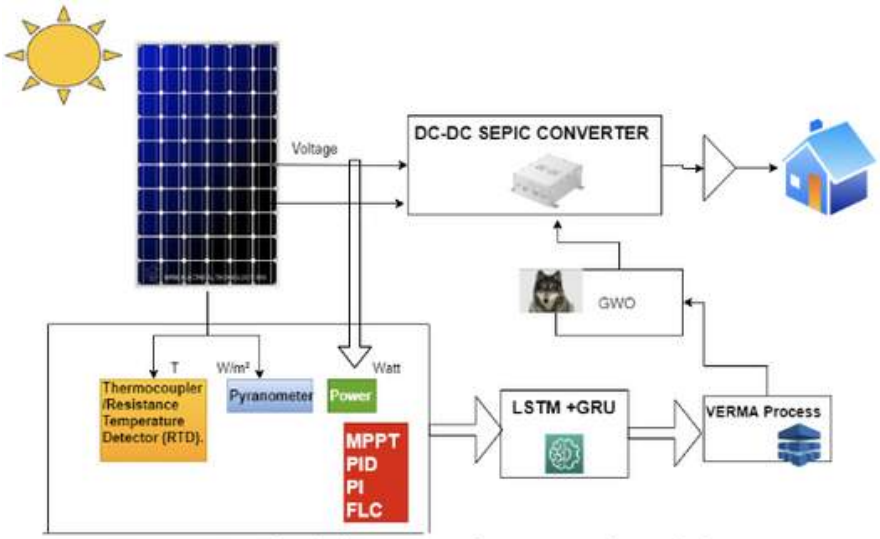


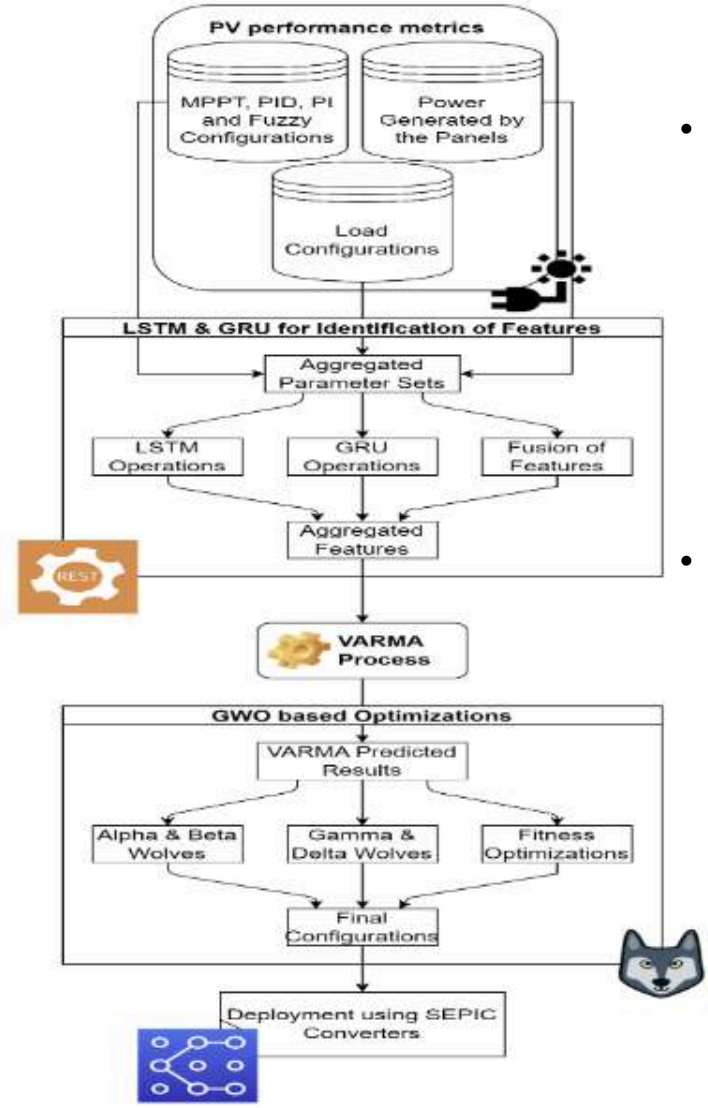
Figure 01: Block diagram of Proposed Model

A SEPIC (Single Ended Primary Inductor Capacitor) converter is implemented to improve overall system efficiency.Various PV performance metrics, such as MPPT, PID, PI, and FLC configurations, as well as the power generated by the panel and load configuration, are available in non-sequential data types. To address this, we designed a combined LSTM and GRU model for feature identification, converting all configuration sets into a multimodal feature set.

The VARMA process is then applied to this multimodal feature set for accurate prediction of PV output. After the LSTM, GRU, and VARMA models have determined the control operation, the GWO model is utilized to optimize the duty cycle of the converter

To test the effectiveness of this approach, experiments were conducted using real-world data. The results showed that this AI-driven control model outperforms existing accuracy, efficiency, and stability strategies.

This innovative model has the potential to significantly enhance the performance of solar power systems, providing a more practical solution for solar energy generation. This model paves the way for designing more efficient and accurate sustainable energy systems by combining predictive control with bio-inspired optimizations.



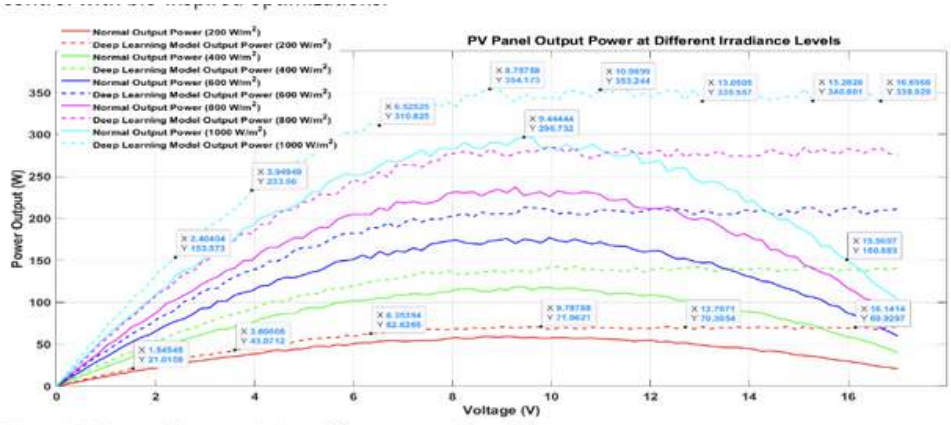


Figure 3: Power Characteristics of the proposed model

For Full Read:

- SCIE Article: - EPCMSDB: Design of an ensemble predictive control model for solar PV MPPT deployments via dual bioinspired optimizations.
  Shreyas Rajendra Hole and Agam Das Goswami
  Sci. Tech. Energ. Transition, 79 (2024) 8
  DOI: https://doi.org/10.2516/stet/2024002

- Patent: - Shreyas Rajendra Hole, SYSTEM AND METHOD FOR SOLAR DEPLOYMENT ENSEMBLE PREDICTION: The Patent Office Journal No. 50/2023 Dated 15/12/2023. Page No. 88699; Intellectual Property India. Application No. 202341074284 A.

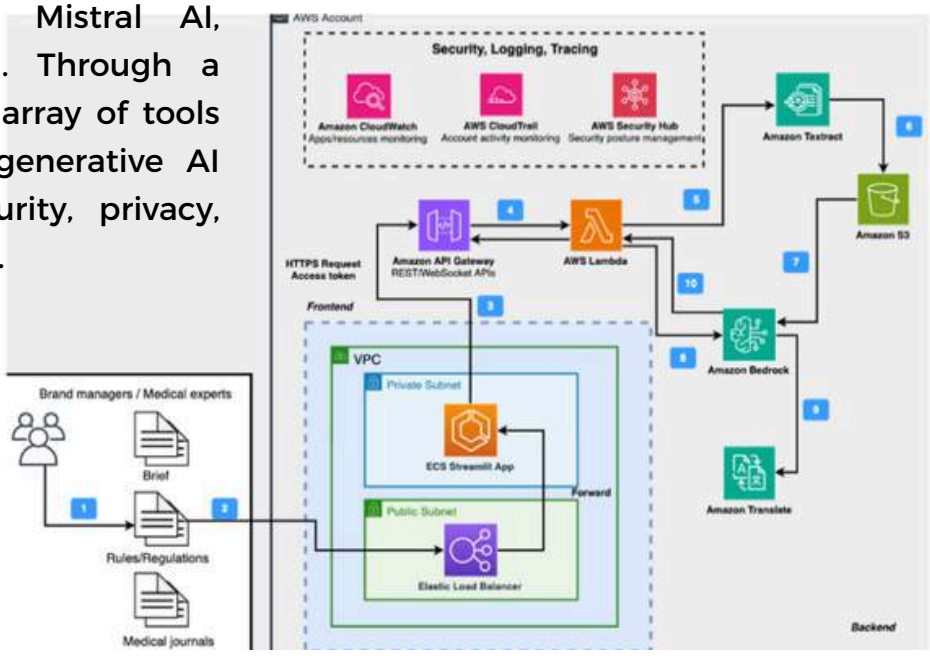
Dr. Shreyas Rajendra Hole
Assistant Professor

Generative AI in Medical Content Generation

Transformer-based large language models (LLMs) and Generative AI exhibit remarkable capabilities in answering questions, summarizing text, generating code, and creating written content. LLMs have diverse applications in healthcare, ranging from extracting medical information and summarizing clinical notes to generating marketing content and automating medical-legal reviews.

Main focus of this article is to create marketing materials aimed at raising disease awareness. To Spread knowledge about potential therapies among patients and healthcare professionals. By obtaining current and precise information, healthcare providers can more effectively tailor treatments for their patients. However, due to the sensitive nature of medical content, the creation process can be quite lengthy (ranging from days to weeks) and may involve multiple peer-review stages, along with strict regulatory compliance and evaluation procedures.

The AWS Generative AI Innovation Centre has recently introduced an AI assistant designed for generating medical content. This system, based on Amazon Bedrock, utilizes LLM capabilities to produce curated content aimed at raising awareness about diseases. Amazon Bedrock is a fully managed service providing access to a selection of high-performing foundation models (FMs) from top AI companies such as AI21 Labs, Anthropic, Cohere, Meta, Mistral AI, Stability AI, and Amazon. Through a single API, it offers a wide array of tools necessary for developing generative AI applications, ensuring security, privacy, and responsible AI practices.



Generative AI in Medical Content Generation

The overall architecture and main steps in the content creation process are depicted in I

- Amazon Elastic Container Service (ECS): Deploys and manages the Streamlit UI.
- Amazon Lambda: Executes the backend code, which includes the generative logic.
- Amazon Textract: Parses documents and extracts text and layout.
- Amazon Bedrock: Facilitates interaction with supported LLMs and embedding models.
- Amazon Translate: Translates content into different languages.
- Amazon Simple Storage Service (S3): Stores documents and caches processed data.

The process works as follows:

1. The user begins by selecting a set of medical references and providing rules and additional guidelines for the marketing content.
2. Through a Streamlit UI, the user uploads the documents and chooses the target audience and language.
3. The frontend sends an HTTPS request via the WebSocket API and API gateway, which triggers the initial Amazon Lambda function.
4. This Lambda function activates Amazon Textract to parse and extract data from the PDF documents.
5. The extracted data is stored in an S3 bucket and then used as input for the LLM prompts.
6. The Lambda function encodes the logic for content generation, summarization, and content revision.
7. Optionally, Amazon Translate can be used to translate the generated content into other languages.
8. The LLM generates new content based on the input data and prompt, then sends it back to the WebSocket via the Lambda function.

e creation process can be quite lengthy (ranging from days to weeks) and may involve multiple peer-review stages, along with strict regulatory compliance and evaluation procedures.

Dr. Vinutha N
Associate Professor

Prof. Udayabhaskara N
Asssistant Professor

Empowering Governance: How LLMs Can Transform Citizen Services in India

In India, the diversity of languages and geographical spread pose significant challenges to effective governance and citizen engagement. However, the advent of Large Language Models (LLMs) presents a promising solution to revolutionize how government services are delivered and accessed across the nation.

LLMs, such as OpenAI's ChatGPT, equipped with advanced natural language processing capabilities, can automate and streamline a myriad of citizen services. Imagine a scenario where a farmer in rural Karnataka, whose primary language is Kannada, needs information on agricultural subsidies. Traditionally, accessing such information might involve navigating through complex bureaucratic channels or relying on limited local resources.

With LLMs, this process becomes seamless and efficient. By integrating these models into government portals and mobile applications, citizens can interact naturally in their preferred language, receiving accurate and timely information on policies, subsidies, and procedural guidelines. This not only enhances accessibility but also empowers citizens with knowledge that is crucial for their livelihoods.

Moreover, LLMs can facilitate grievance redressal mechanisms by automating initial inquiries and directing citizens to the appropriate departments or authorities. For instance, a citizen in West Bengal experiencing delays in receiving ration supplies can lodge a complaint through a user-friendly chat interface powered by LLMs. The model can then guide the citizen through the necessary steps or escalate the issue to higher authorities, ensuring prompt resolution and accountability.

From a public administration perspective, LLMs enhance efficiency by handling routine inquiries, freeing up human resources to focus on more complex tasks and strategic initiatives. This technological intervention reduces administrative burdens and operational costs while improving service delivery standards nationwide.
Furthermore, LLMs can bridge linguistic barriers by providing multilingual support across diverse regions, thereby promoting inclusive governance and fostering greater civic participation. Whether it's disseminating COVID-19 guidelines in regional languages or assisting with voter registration queries during elections, LLMs ensure that critical information reaches every corner of the country effectively.

In conclusion, the integration of LLMs in government services not only represents a transformative leap towards a more responsive, accessible, and efficient governance framework in India but also embodies the timeless wisdom encapsulated in the Sanskrit aphorism :

"सा विद्या या विमुक्तये"

("Knowledge is that which liberates"). This quote highlights the profound impact of knowledge in liberating individuals from ignorance and enabling them to lead empowered lives. In the context of this discussion on how LLMs can revolutionize citizen services in India, it emphasizes the pivotal role of advanced technologies like Large Language Models in democratizing access to information. By harnessing the power of artificial intelligence and natural language understanding, India can unlock tremendous potential in enhancing citizen engagement, promoting transparency, and driving socio-economic development across its diverse landscape. Thus, integrating LLMs into the fabric of governance not only streamlines processes but also empowers citizens with the knowledge needed to actively participate in shaping their communities and nation.

CHETHAN K MURTHY
4th Sem Student

AI and Healthcare

Medical insight begins from the tiniest changes in our biological elixir—blood. Your machine however, is flawed. The hematology analyzer, is capable of taking thousands of measurements that it fails to record. Herein lies a great treasure trove that can detect early signs of infectious outbreaks as well as people at high-risk of particular diseases. The problem remains, it is impossible for humans to comprehend such data. Enter machine learning.

The phenomenon we relate today with Artificial Intelligence only reflects back a tiny fraction of what is in the works: an infinite machine with infinite possibilities. Behind each artificial neuron lies a whole new equation, presenting an even newer frontier.

In another room of our hypothetical laboratory complete with all cutting-edge facilities lies a computer screen showing a scan of a brain. A radiologist has outlined a rather fuzzy shape, it is what he believes to be developing prostate cancer. On the other side of the screen, a model has done the same, and the results are strikingly similar.

From whole organ x-rays to microscopic images and cell tests, medical practitioners deploy imaging techniques in diverse ways: detecting cancer at its inception, identifying diseases through bloodstream analysis, and monitoring treatment effectiveness. In this interconnected age, collaboration transcends traditional boundaries, reshaping the landscape of healthcare.

Gone are the days when AI applications necessitated access to supercomputers and lightning-fast chips. Collaborative efforts have pushed AI models onto rovers navigating planets with the stars and lightweight drones delivering life-saving blood products. The ability to discern subtle chemical reactions in blood using nothing more than cellphone cameras and generate three-dimensional protein structures with a chip no faster than a Raspberry personifies our newfound capabilities. The power to shape the futures of millions is no longer constrained by equipment or expertise shortages.

Collaboration ensures there are precedents to work on, and ultimately improve. It is only fitting that we approach such problems with a mind most open, as our problems no longer relate to our domain alone, and instead span frontiers.

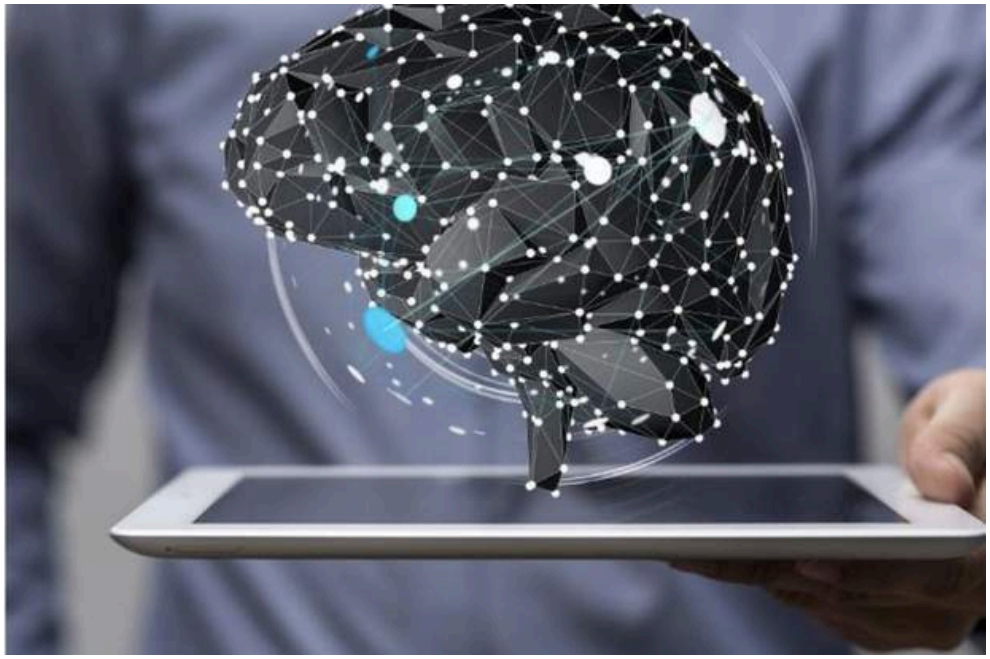
The next great things carry equally great harbingers. The world has often come together at the most prevalent of situations, despite the cynicism and hatred among us. We cannot afford delays. It took plenty of time until the stethoscope, the symbol of healthcare, was adopted by the medical community back in the 19th century. An invention from 1819, it took several decades to its adoption. AI will help physicians diagnose much better, handle surgeries for the surgeons, and enable paramedics to respond quicker. It will change medicine,just like the wooden tube working like an ear trumpet would enable doctors to hear cardiacand lung sounds, at the point of care.

Shashwath Saini
4th sem Student
AIML

The Quantum Imperative: AI's Role in the Quantum Computing Era.

As a dedicated student with a keen interest in the dynamics of the business sector, I have found myself consistently drawn to the intersection of pioneering technologies and their profound implications for industries. Imagine a world where computers can solve problems that seem impossible today, where machines understand and learn from data with unprecedented speed and accuracy. This is the promise of the future, where quantum computing meets artificial intelligence (AI).

In recent years, quantum computing has emerged as a revolutionary technology with the potential to transform industries and redefine the limits of computation. At the same time, AI has become increasingly pervasive, powering everything from virtual assistants to autonomous vehicles. As these two fields converge, the possibilities for innovation and disruption are boundless.



In this article, we explore the convergence of quantum computing and AI, examining how their combined capabilities can revolutionize business operations, drive scientific discovery, and reshape our understanding of the world. We'll delve into the principles of quantum computing, explore the advancements in AI, and discuss the opportunities and challenges that arise when these two technologies intersect

Historical Context: Quantum computing traces its roots to the early 20th century, with the formulation of quantum mechanics by pioneers like Max Planck and Niels Bohr. Meanwhile, artificial intelligence emerged as a field in the 1950s, marked by the Dartmouth Conference. Both disciplines have since evolved, overcoming challenges and achieving significant milestones. While quantum computing has progressed from theoretical frameworks to experimental demonstrations, AI has witnessed breakthroughs in machine learning and deep neural networks, fuelled by vast amounts of data and computational power.

Current State: Today, quantum computing and AI stand at the forefront of technological innovation. Companies like IBM, Google, and Microsoft are racing to develop quantum hardware and software, while AI applications permeate various sectors, from healthcare and finance to transportation and entertainment. The convergence of these fields is evident in the burgeoning research on quantum machine learning, where quantum algorithms promise to enhance AI capabilities by leveraging quantum properties such as superposition and entanglement.

1. **Rapid Insights and Decision-Making:** Quantum computing enables businesses to process vast datasets and perform complex simulations at unprecedented speeds, empowering decision-makers to gain actionable insights in real-time. By leveraging quantum algorithms, businesses can accelerate strategic decision-making processes, optimize supply chain operations, and respond swiftly to market dynamics. For instance, quantum-enhanced AI algorithms can analyse consumer behaviour patterns and market trends with greater accuracy, enabling businesses to adapt their strategies and offerings in a dynamic marketplace.
2. **Fortified Cybersecurity Measures:** Quantum cryptography presents a game-changing solution to cybersecurity challenges, offering businesses robust encryption methods that are resistant to conventional attacks. Quantum key distribution protocols ensure secure communication channels, safeguarding sensitive data and intellectual property from cyber threats. By adopting quantum-secure encryption technologies, businesses can mitigate the risk of data breaches, protect customer privacy, and uphold regulatory compliance standards, thereby enhancing trust and confidence among stakeholders

The fusion of quantum computing and AI isn't just a trend; it's a beacon of innovation lighting the way to a bold new era. From the annals of history to the cutting-edge present and beyond, their partnership promises to rewrite the rules of technology. As businesses, researchers, and dreamers alike embark on this exhilarating journey, let's dare to imagine, collaborate, and push the boundaries of what's possible. The future awaits, vibrant with potential and ripe for the taking. So, let's seize the moment and embark on this quantum adventure together!

KAVIYA
2nd Sem Student

Kicking Goals with AI: How Tech is Transforming the Sports Arena for Footie Fans and Fantasy Leagues!

Hey sports fanatics! Whether you're a hardcore supporter or just love a good game, you've gotta hand it to AI and ML for revolutionizing the sports scene. As a footie-loving second-year AIML student, let me spill the beans on how these tech marvels are changing the game.

On the pitch: AI and ML act as secret weapons, leveraging deep learning algorithms such as convolutional neural networks (CNNs) and recurrent neural networks (RNNs) to analyze player data and game strategies faster than you can say "GOAL!" Coaches utilize machine learning models like decision trees and random forests to fine-tune tactics with predictive analytics, giving teams a competitive edge in real-time decision-making.

Off the field:Fantasy leagues are getting a digital makeover. AI algorithms crunch player stats and historical performance metrics, empowered by techniques such as **natural language processing (NLP)** for **textual data analysis and cluster analysis** for grouping players based on performance metrics. Armchair managers like us can now assemble dream teams with the precision of a pro coach. Meanwhile, **VAR (Video Assistant Referee)** systems ensure every call is fair and square using computer vision algorithms for real-time video analysis, enhancing game integrity.
But the real game-changer lies in player analytics. Every sprint, move, and heartbeat is tracked and analyzed in real-time using sensor fusion techniques and machine learning algorithms. This allows sports scientists and trainers to optimize training programs, prevent injuries through predictive modeling, and maximize athlete potential with personalized training regimens guided by reinforcement learning algorithms. It's like having a personal sports guru in your pocket, guiding teams and players towards peak performance.

Looking forward, the future of sports tech is promising. We may soon witness AI coaching teams, where reinforcement learning algorithms assist coaches in strategizing and analyzing game performance. AI could even compete alongside players, pushing the boundaries of what's possible in sports technology.

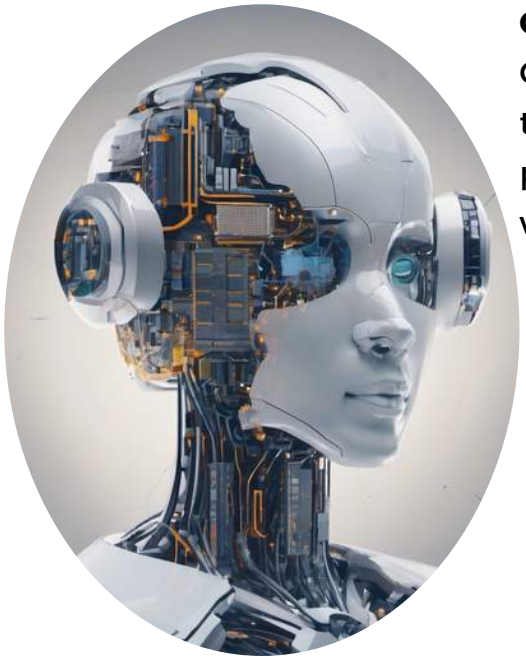
As a sun-soaked, outdoor-loving kid, I was all about kicking balls and scoring goals under the blazing sky. Little did I know that AI and ML would swoop in and revolutionize my favorite playground – the world of sports, especially football. When I found myself reluctantly shackled to the engineering path, there was only one escape route: AIML. Why? Because I wasn't about to let go of my passion for football. AIML wasn't just a career choice; it was my ticket to diving deeper into the game I loved, and, boy, did it deliver!

In the game of sports, AI and ML aren't just tools – they're the secret weapons giving us the edge. So, suit up, dive into the data pool, and let's smash some records

DISHANT THAPAR
4th Sem AIML Student

AI All-Stars: ChatGPT, Microsoft Copilot, and Google Gemini Changing the Game!

In the dynamic field of artificial intelligence, three standout tools are redefining what's possible: ChatGPT, Microsoft Copilot, and Google Gemini. Each leverages advanced technologies and domain-specific knowledge to address distinct challenges across various industries.



ChatGPT,(developed by OpenAI):

Operates on the cutting-edge GPT (Generative Pre-trained Transformer) architecture, renowned for its prowess in natural language processing tasks. Here's why it's a game-changer:

- Utilizes deep learning to generate human-like text responses, perfect for customer support chatbots and content creation.
- Employs state-of-the-art summarization algorithms for condensing lengthy texts into concise summaries.
- Integrates seamlessly into applications requiring multilingual capabilities and interactive storytelling.
- Enhances personal virtual assistants with its ability to understand and respond to natural language queries effectively.

Microsoft Copilot:

is a revolutionary AI-powered tool designed specifically for developers, developed by Microsoft. Its capabilities include:

- Leveraging machine learning models trained on vast datasets of code to suggest and auto-complete code snippets in real-time.
- Assisting in debugging processes by identifying and suggesting fixes for common coding errors.
- Supporting learning and education through interactive coding examples and exercises.
- Facilitating pair programming sessions where it collaborates with developers to enhance productivity and code quality.
- Streamlining code review processes by providing comprehensive insights and suggestions for improvement.

Feature	Open AI ChatGPT	Microsoft Copilot	Google Gemini
Underlying Technology	GPT-3.5 (Free) or GPT-4 (Paid)	GPT-4	Gemini Pro
Primary Function	Conversational AI and text generation	Code completion and text generation	Conversational AI and text generation
Web Access	Limited (Free) - Full (Paid)	Real-time (Free)	Comprehensive
Cost	Free tier with limitations, Paid tiers for more features	Free tier with limitations, Paid tiers for more features	Not publicly available yet
Response Length	Unlimited (Paid), Limited (Free)	Limited (5 per session - Free)	Unlimited
Strengths	Engaging conversation (Paid), Creative text generation	Coding assistance, Real-time information access (Free)	Accurate information, Web access for context
Weaknesses	Limited real-time information (Free), Potential factual errors	Limited outside coding, Restricted response length (Free)	Not publicly available, Potential limitations compared to established options
Additional Notes	Focuses on open-ended conversation and creative text formats	Integrates with development environments, focuses on code completion and assistance	Focuses on factual accuracy and informative responses

Google Gemini: on the other hand, represents Google's pioneering efforts in applying AI to biomedical research and drug discovery. Key features include:

- Harnessing advanced machine learning algorithms and computational biology techniques to analyze complex biological data.
- Accelerating the identification and optimization of potential drug candidates by predicting molecular interactions and properties.
- Enhancing search engine capabilities by curating and indexing medical and scientific information with high accuracy.
- Expanding educational resources through AI-driven content curation and knowledge base enrichment.
- Supporting voice assistants by integrating biomedical knowledge for more informed responses and recommendations.

MOHAMMED HUNAIS
4th SEM Student AIML

Exploring Ethics in AI-Powered Computer Vision Systems

In this era of fast technological progress, the merging of artificial intelligence and computer vision has opened up a world of new opportunities. From security monitoring to medical diagnoses, the potential applications are extensive and promising. However, in my exploration, I encountered a critical aspect often neglected by the excitement of innovation: the ethical dimensions of AI-powered computer vision systems.

It all started with a casual discussion about facial recognition technology. Fascinated by its capabilities and implications, I embarked on a journey to understand the ethical complexities interconnected with such advancements. This led me to explore deeper into thought-provoking questions and profound realizations.

I came across concerns regarding privacy violations and the misuse of data. The widespread gathering of biometric data raises concerns about individual rights and freedoms. Who ultimately owns our digital identities, and how can they be protected in the realm of AI-driven surveillance?

The issue of bias in algorithmic decision-making emerged as a significant concern. Biased training data can propagate unfairness and lead to discriminatory outcomes, particularly in areas like law enforcement and hiring practices. How can we address bias and ensure fairness in the development and implementation of AI-powered systems?

Despite these ethical challenges, there is hope. Transparency and accountability are seen as essential foundations for constructing ethically sound AI systems. By promoting interdisciplinary collaboration and embracing diverse perspectives, we can work towards a more inclusive and responsible AI environment.

Looking ahead, the future of AI-powered computer vision systems relies on our collective commitment to ethical principles.

As technology evolves, our ethical standards must also adapt. We must proceed cautiously,

considering the societal impact of our innovations. By prioritizing human values and ethical considerations,

we can harness the transformative potential of AI while mitigating its risks.

Harsh Manalel
6th SemStudent - AI & ML

Generative AI :

A Paradigm Shift in Human-Machine Collaboration

Generative AI (GenAI) has transcended its initial hype and entered a phase of profound impact on the human experience. Fueled by the exponential growth of computational power and the sophistication of deep learning algorithms, GenAI models can now ingest and analyze vast datasets, identify intricate patterns, and generate entirely novel outputs, fundamentally altering the way we approach tasks, solve problems, and express ourselves.

GenAI's core strength lies in its ability to process and synthesize information at an unprecedented scale. It can extract meaningful insights from data, identify underlying trends, and generate outputs that are not merely imitations but rather innovative solutions tailored to specific contexts.

One of the most immediate benefits of GenAI is its ability to automate repetitive and time-consuming tasks. Smart home devices adjust lighting, regulate temperature, and manage household chores based on user preferences and real-time environmental conditions. Recommendation systems curate personalized shopping experiences, suggesting products that align with individual needs and interests, freeing up human time and mental energy for more meaningful pursuits.

GenAI significantly augments human capabilities in domains requiring creativity and critical thinking. Writers overcome writer's block, generate creative text formats, or translate languages with near-human accuracy. Software developers utilize GenAI for code generation, debugging, and testing, accelerating development processes.
AI-powered chatbots provide 24/7 support, answer FAQs, and resolve basic issues, reducing the burden on human agents. Streaming platforms and online retailers recommend content and products tailored to individual preferences, creating personalized and engaging user experiences.

GenAI addresses complex challenges and drives innovation across diverse fields. From drug discovery to climate change mitigation, it revolutionizes problem-solving by analyzing vast datasets, assisting in early disease detection, personalized treatment plans, and drug development.

In conclusion, Generative AI is transforming our world, not only by automating tasks but by augmenting human capabilities and fostering a new era of creativity, personalized experiences, and problem-solving. As GenAI technology evolves, its impact on our lives will become even more profound, reshaping the way we work, interact, and experience the world. This collaboration between humans and AI holds immense potential for a future that is more efficient, fulfilling, and ultimately, more human.

Hena Basheer
4th SEM Student - AI & ML

AI with Quantum Computing: The New Information Society

Vision a world in which something that would normally take years to compute – like inventing new drugs, calculating a company's future, or forecasting the weather – is completed in a matter of seconds. This is not a script from a sci-fi movie, but it is a probable outcome of the interaction between AI and quantum computing. This article is devoted to the discussion of one of the most innovative areas of modern technological development, namely the quantum computing and their connection with AI, and, in particular, the intelligent computing and numerous opportunities that they open.

Quantum computing is a type of computing that makes use of quantum mechanics operations that cannot be done in the traditional computer. While the classical computer uses bits which are 0 and 1, quantum computers uses quantum bit or qubit in which they are in many states at once due to the superposition. Also, entanglement makes qubits correlated, or dependent on each other, which in turn makes quantum computers perform calculations much faster that classical computers. Quantum computers do exceptionally well in Optimization problem, a critical area in AI, that is training classifiers call for searching for the best solution in enormously large sets. It is evident that quantum computing can aid the training of AI models; Grover and Shor's algorithms have the potential to bring down the time of completion of tasks to mere seconds from years. Some of the major applications of AI systems involve dealing with large sets of data and thus, the capability of the quantum computers to handle, process and analyze the data quickly can be an added advantage for the AI systems in analysis and recognition of huge data sets.

In healthcare application, quantum computing can revolutionize drug discovery and genomics, where it can take microseconds to analyze extremely vast biological data and come up with new drug targets or insights into genetic disease. Financial institutions apply quantum computing in risk valuation, fraud identification, and executive trading and investments for better prediction of the stock market and other financial metrics. Quantum AI can enhance large problematic logistical matters including the identification of the shortest route and supply chain management, inventories. Given this quantum algorithms outperform classical AI in encryption approaches and identifying unusual traffic, Quantum computing can improve cyber security. Quantum computing is beneficial in climate modeling and environmental predictions as it addresses big data mainly as it helps in sorting and analyzing large data systems in order to better address or understand climate change.

AI and quantum computing integration entails the use of weakened quantum computers in an effort to bring incremental improvements to various industries due to the advancement in computational capability. The integration of AI and quantum computing can help several industries and significantly improve the various aspects of AI that could not have been previously addressed. Investment in the quantum computing is huge as companies like IBM, Google and Microsoft have started focusing on it and similar is the case with the artificial intelligence integration. Research institutes like Max Planck Institute for Quantum Optics and MIT-IBM Watson AI Lab are amongst pioneers of advanced researches in AI. Moreover, more universities such as MIT, Stanford Colleges, and the University of Oxford have integrated quantum computing and artificial intelligence in their educational systems ready, and the next generation of scientists and engineers to develop this disruptive technology.

Research, development and then working hand in hand with industries will be key factors which are going to unlock the true potentials of this dynamic duo and push on for further developments.

Neha M
4th Sem Student - AI & ML

JAN-JUN 2024
Vol.2 Issue:1

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF CSE (AI & ML)

DEPARTMENT ACTIVITIES

DSU Student Anuj Diwedi Embarks on Prestigious Exchange Program at LeTourneau University, USA.

Mr. Anuj Diwedi (ENG21AM0011), a 5th semester student of the Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning) at the School of Engineering, Dayananda Sagar University (DSU), has been selected for the prestigious student exchange program. This opportunity arises from the Memorandum of Understanding (MOU) between LeTourneau University in Texas, USA, and DSU, fostering academic collaboration and cultural exchange between the two institutions.

As a strategic scholar, Mr. Anuj Diwedi will spend one semester at LeTourneau University, where he will be enrolled in the Department of Computer Science. His academic focus will be on advanced subjects specializing in Artificial Intelligence and Cryptography. This exchange program not only allows Mr. Anuj to benefit from LeTourneau University's cutting-edge curriculum and resources but also enables him to gain international exposure and broaden his academic and cultural horizons.

The Department of Computer Science and Engineering (AI & ML) at DSU is immensely proud to offer Mr. Anuj this invaluable opportunity to study abroad. The faculty and administration believe that such international experiences are crucial for the holistic development of their students, preparing them for the globalized and interconnected world of technology and innovation.

The department extends its best wishes to Mr. Anuj Diwedi for a productive and enjoyable stay in the USA. The faculty and peers at DSU look forward to seeing him return with enriched knowledge, new perspectives, and a greater understanding of the global landscape in the fields of AI and Cryptography. This exchange program marks a significant step in DSU's commitment to providing its students with world-class educational opportunities and fostering strong international partnerships.

Manuscript Writing using Open-Source Softwares

Date: 16/01/2024 to 20/01/2024

Online: Google Meet Platform

Target Audience: 6th Sem CSE Students and CSE(AI&ML) Students

Resource Person

Dr. Shreyaa J
Dr. Srinidhi
Manipal Institute of Technology

The Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning) successfully organized a five-day workshop from 16th to 20th January 2024 on "Manuscript Writing using Open-Source Softwares". This enriching workshop specifically targeted the 8th Semester CSE (AI&ML) students, providing them with a valuable opportunity to enhance their research article writing skills through the use of open-source software.

The workshop saw participation from 8th sem Students and featured resource persons from the Manipal Institute of Technology Bengaluru, Manipal Academy of Higher Education, Manipal, and AI&ML Faculty Members. The primary objective of the workshop was to guide students through the intricate steps of writing research articles. By utilizing open-source software, students gained practical insights and hands-on experience, which are crucial for their academic and professional growth in the field of AI and ML.

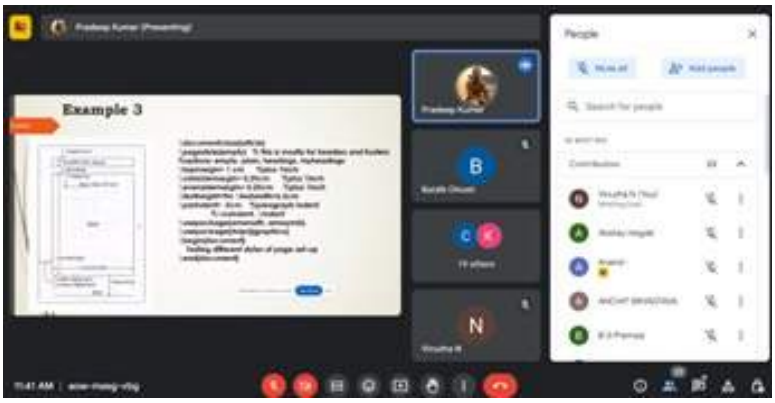
Day 1:

Introduction to Research Methodology

The workshop commenced with an enlightening session by Dr. Jayavrinda Vrindavanam, the Head of the Department of AI&ML. Dr. Jayvrinda Vrindavanam introduced the students to the fundamentals of research methodology, emphasizing the importance of a structured approach to research and the various stages involved in conducting effective research.

Day 2: Basics of MiKTeX, WinEdt, and Overleaf

On the second day, Prof. Pradeep Kumar K guided the students through the basics of MiKTeX, WinEdt, and Overleaf. This session provided the students with an understanding of essential tools for document preparation in LaTeX, a powerful typesetting system widely used for technical and scientific documentation.



Day 3: Bibliography Management and Troubleshooting

Dr. Srinidhi N N led the third day's session, focusing on bibliography management and basic troubleshooting in LaTeX. Students learned how to manage citations and references effectively, which is a critical aspect of research writing. Dr. Srinidhi also addressed common issues and troubleshooting techniques to ensure smooth document preparation.

Day 4: Research Article Writing and Technical Insertion

The fourth day featured Dr. Vinutha N, who taught the students about research article writing, including the insertion of mathematical equations and images. This session was instrumental in helping students understand how to present their research findings clearly and professionally, integrating complex mathematical notations and visual aids seamlessly into their documents.

Day 5: Table Creation and Document Classes

The final day of the workshop covered advanced topics such as the creation of single and multi-tables, algorithms, and various document classes in LaTeX. This session equipped the students with the skills needed to structure their documents efficiently, using appropriate formatting and organization techniques to enhance the readability and impact of their research papers.

The event was led by prominent figures, including Dr. Udaya Kumar Reddy K R, Dean SoE; Dr. Amith Bhatt, Pro-Vice Chancellor, DSU; Dr. Ramesh R Galigekere, Dean (Academic), Science & Technology; and Dr. Jayavrinda Vrindavanam, Professor and Chairperson, Department of CSE (AI&ML). The successful execution of the workshop was coordinated by Dr. Vinutha N, Associate Professor, Department of CSE (AI & ML), and Prof. Pradeep Kumar K, Assistant Professor, Department of CSE (AI & ML).

The workshop was highly beneficial to the attendees, providing them with comprehensive knowledge and practical skills in manuscript writing. The interactive sessions facilitated by esteemed resource persons ensured that the students were well-versed with the latest tools and techniques in research writing, which is an essential component of their academic journey.

TECH SPARK-2024

The AI & ML department, in collaboration with the AI Works @ DSU club, successfully organized “Tech Spark 2024”, a project exposition held on February 24, 2024. The event was convened by Dr. Jayavrinda Vrindavanam, Professor and Chairperson of the Department of CSE (AI & ML), with faculty coordination by Dr. Vinutha N, Associate Professor, and Prof. Udaya Bhaskara N, Assistant Professor. The event also saw active involvement from student coordinators: Mr. Ratan Ravichandran, Mr. Bharath Sharma, Mr. Yudhajit Jana, Mr. Shriyans Arkal, Ms. Sayli Bande, and Ms. Sakshi Archana.

Tech Spark 2024 provided a platform for participants to showcase practical projects, particularly in AI & ML, fostering collaboration, learning, and networking opportunities with distinguished academicians and engineers. The event featured a competitive component, offering prizes for the most innovative projects.

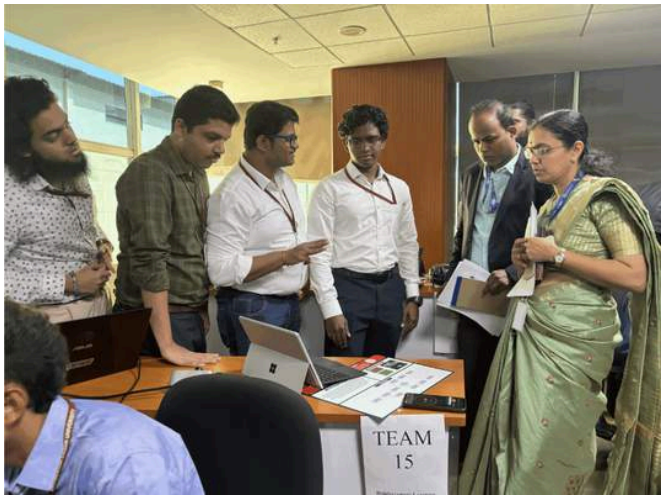
The day began at 8:30 AM with registration and attendance. The formal proceedings started at 9:30 AM with an introduction by Ms. Sakshi Archana, followed by an event overview from Mr. Ratan Ravichandran. They, along with Ms. Sayli Bande, expressed gratitude and introduced the panelists: Dr. Raghunandan Srinath, Dr. Jayavrinda Vrindavanam, Dr. Pramod Kumar Naik, and Dr. Revathi V., each bringing extensive experience and expertise.

Presentations followed, with participant teams divided into batches, presenting their projects to the panelists for evaluation.

Notable addresses were given by Dr. Pramod Kumar Naik and Dr. Raghunandan Srinath, who commended the participants' knowledge and domain expertise.

Before announcing the main event winners, the organizers recognized winners of other competitions such as hackathons, ideathons, academic toppers, and highest salary package achievers. The main event winners were:

- First Place: Team 4 (Arham Asif Syed, Sai Nishwanth Raj Reddy)
- Second Place: Team 30 (Karthick K Pai)
- Third Place: Team 15 (Benson T Yohannan, Arham Asif Syed, Abilash S Bharadwaj, Gautham Raj)



Categorical winners included:

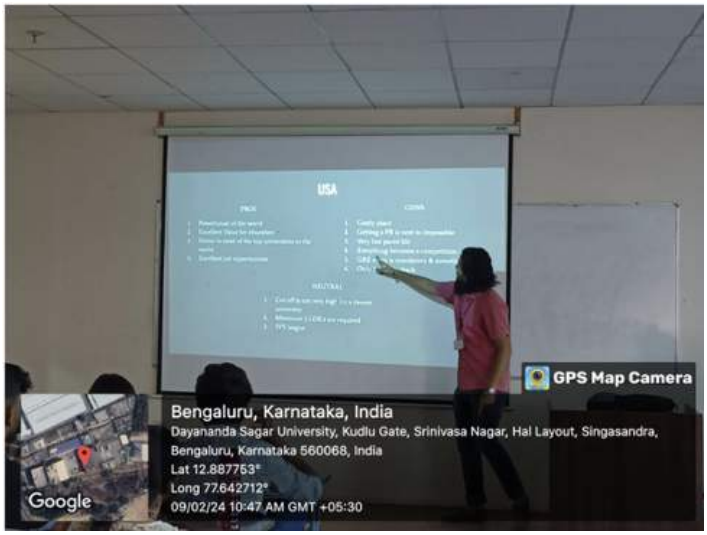
- Top Presentation: Team 10 (Ivan Reni Varghese, Alan Joshy Thomas, Ankita Singh)
- Best Documentation: Team 30 (Karthick K Pai)
- Social Impact: Team 11 (Jeramiah T Varghese, CS Jeevan, Kondanda Rama Raju Kasaru)
- Innovation Excellence: Team 4 (Arham Asif Syed, Sai Nishwanth Raj Reddy)
- Cutting Edge Tech: Team 19 (Raghav Nanjappan, Challa Priyankar, Punith Pechetti, Sai Nishwanth Raj Reddy)

Mementos were presented to the panelists as a token of appreciation. Dr. Vinutha N extended heartfelt thanks to all participants, organizers, and attendees. Dr. Jayavrinda Vrindavanam concluded the event with an inspiring address. The event wrapped up at 2:00 PM, with participant feedback highlighting the success of the event, particularly the organization, content quality, and overall experience.

Empowering Future Innovators: 7-Day Hands-On Placement Training Workshop at CSE (AI & ML) Department

The CSE (AI and ML) department, in collaboration with the AI Works @ DSU club, organized a comprehensive 7-day hands-on placement training workshop from February 9th to February 19th, 2024. This workshop aimed to prepare students for placements by providing insights into essential skills, resume building, interview techniques, and technical know-how.

The CSE (AI and ML) department, in collaboration with the AI Works @ DSU club, organized a comprehensive 7-day hands-on placement training workshop from February 9th to February 19th, 2024. This workshop aimed to prepare students for placements by providing insights into essential skills, resume building, interview techniques, and technical know-how.



Day 1: Overview of Placements and Higher Education
The workshop began on February 9th, 2024, with an enlightening session by Arham Asif Syed, an 8th-semester student of AIML at Dayananda Sagar University. He briefed 6th-semester students on the critical aspects of placements and higher education, emphasizing the importance of CGPA and how it influences career opportunities. Arham highlighted the necessity of preparation through skills and projects, the steps in the placement process, and strategies to improve CGPA and coding skills. He also discussed higher education options, including choosing the right country, qualification, and budget, and the value of professional agencies like IDP.
Key Takeaways:

- The significant impact of CGPA on job opportunities and salary.
- Preparation for placements through skill development and project work.
- Steps in the placement process: aptitude tests, technical tests, and interviews.
- Importance of accurate CGPA and avoiding duplicate applications.
- Considerations for higher studies, including country selection, budgeting, and documentation.

Empowering Future Innovators: 7-Day Hands-On Placement Training Workshop at CSE (AI & ML) Department

Day 2: Interviews and Technical Tests with TCS On February 10th, 2024, from 11:00 AM to 1:00 PM, an informative session was conducted by Thippeswamy K M and Lingaraju M J, seasoned professionals from TCS. Dr. Vinutha N hosted the session, which focused on crafting impressive resumes, the importance of formal dress code, and the need for thorough company research before interviews. The speakers emphasized the significance of technical coding practice and structured responses for common interview questions. The session included mock interview questions, group discussions on AI-related topics, and coding exercises.

Key Takeaways:

- Crafting impressive resumes and showcasing achievements effectively.
- Importance of formal dress code and company research.
- Technical coding practice on platforms like Hackerearth, Hackerrank, and Geeksforgeeks.
- Structuring responses for common interview questions.
- Keeping up with the latest technology trends.

Day 3: Company Profiling Event The third day, February 11th, 2024, featured a company profiling event, where students were trained to research companies before applying. Hosted by Ratan Ravichandran, the event split students into teams, each profiling a different company and presenting their findings. The presentations were judged by Dr. Udayabhaskara and Dr. Vinutha N based on various criteria, including topic coverage, organization, depth of information, clarity, accuracy, and overall quality.

Participating Teams and Companies:

- Team 1: Delta X (Lead: Sayli Bande)
- Team 2: Cyware (Lead: Alisha Alias)
- Team 3: Nokia (Lead: Adnan K)
- Team 4: Aptean (Lead: Anirudh Sajith)
- Team 5: Impelsys (Lead: Harsh Manalel)
- Team 6: IBM (Lead: Vinay R)

Key Takeaways:

- Importance of background research about companies.
- Relevance of the role to the industry, company domain, history, mission, values, products/services, competitors, and industry trends.
- Presenting findings in a structured and engaging manner.

Empowering Future Innovators: 7-Day Hands-On Placement Training Workshop at CSE (AI & ML) Department

Day 4: Insights from an ML Engineer On February 14th, 2024, Vigneshwara C, an ML Engineer at Aramco, Saudi Arabia, shared his career journey and advice for aspiring data scientists and ML engineers. He emphasized the importance of a data-driven approach, hands-on coding, industry workflow, and staying updated with technological advancements. He also discussed job opportunities abroad, certifications, and interview preparation.
Key Takeaways:

- ML's role in monitoring, improving, and deploying AI/ML solutions.
- Importance of starting placements preparation in the 6th semester.
- Essential traits for ML engineers: iterative, statistical, problem solver, programmer.
- Hands-on coding practice and embracing errors for growth.
- Tools and applications: MLflow, Kubeflow, Nvidia Jetson, Docker, Informatics.
- Value of professional certifications and job opportunities abroad

Day 5: Technical Skill Upgradation and Career Path On February 15th, 2024, Mithun G, a Service Info Developer at HP Enterprise, discussed the exponential growth in the AI software market, various roles in the AI/ML field, and trends in AI/ML. He provided a roadmap for skill development, emphasizing the importance of hands-on projects, professional certificates, and bridging the industry-academia gap.
Key Takeaways:

- Overview of AI software market growth and its impact.
- Roles in AI/ML: Data/Business Analyst, Data Engineer, ML Engineer, AI Engineer, MLOps Engineer, Data Scientist.
- Trends in AI/ML and the significance of Generative AI.
- Skill development roadmap: Python, Big Data, databases, machine learning, deep learning.
- Importance of hands-on projects and professional certifications.
- Recommended online courses and tools for resume review.

Day 6: Practical Skills Development The final day, February 19th, 2024, featured Sandhi Gupta, an 8th-semester student, who conducted a hands-on session on using LaTeX for scientific and technical documents. She covered LaTeX's capabilities in handling mathematical equations, bibliographies, and cross-referencing, and provided practical tips for setting up a LaTeX environment, document structure, text and equation formatting, and bibliography management.
Key Takeaways:

- LaTeX's proficiency in handling mathematical equations and bibliographies.
- Steps to set up a LaTeX environment and document structure.
- Practical tips for text and equation formatting.
- Effective bibliography management using BibTeX.
- Collaboration tools and version control integration with Git.
- Efficiency in research article preparation using LaTeX.

INTERCONTINENTAL INNOVO QUEST - 24, A 30HRS INTERNATIONAL HACKATHON

From the 1st to the 3rd of March 2024, the Department of Computer Science and Engineering (AI & ML) at Dayananda Sagar University (DSU), in collaboration with Letourneau University, Longview Texas, USA, orchestrated a groundbreaking event titled "InnoQuest 2024." This distinguished 30-hour Hackathon was meticulously designed around the theme of "computing for social good," uniting 43 teams comprising 125 dedicated participants.

The inauguration ceremony, a spectacle of academic and industry prowess, welcomed esteemed luminaries and thought leaders. Notable among them were Jhonson Jose, Director at Alphabet Inc., honored as the Guest of Honor, and Dr. Brent Bass, Head of the Department of Computer Science and Engineering at Letourneau University, who conveyed his esteemed wishes virtually, underscoring the global significance and collaborative spirit of the event.

The ceremonial proceedings were graced by the presence of distinguished guests such as Dean Uday Kumar Reddy from the School of Engineering, Dr. Ramesh R. Galigere, Dean of Academics, Dr. Kousalya Govardhanan, Dean of Research and Development, and Ms. Supriya Mathew, Vice President of International Affairs at DSU. Their august presence underscored DSU's unwavering commitment to fostering innovation and global collaboration in academia.

Participants immersed themselves in an intensive 30-hour marathon of ideation, coding challenges, and solution crafting aimed at addressing pressing societal challenges. The Hackathon not only celebrated technical prowess but also aimed to inspire participants to channel their expertise towards meaningful societal impact. Teams, fueled by passion and expertise, labored tirelessly to conceptualize and prototype innovative solutions across diverse domains including healthcare, education, sustainability, and community welfare. A distinguished jury panel comprising experts from both industry and academia played a pivotal role in adjudicating the projects. The panel featured luminaries such as Dr. Hariharan, a retired ISRO Scientist; Dr. Bipin Kumar; Dr. Gopalsharma R. Joshi; Dr. Arun Balodi; Dr. Kousalya Govardhanan; and Dr. Pramod Naik, esteemed faculty members from the School of Engineering at DSU. Their discerning evaluation criteria encompassed creativity, technical acumen, feasibility, and potential societal impact, ensuring a rigorous and objective assessment process.

Throughout the Hackathon, participants benefited from invaluable mentorship and guidance provided by faculty coordinators Dr. Vinutha N and Prof. Pradeep Kumar K, who lent their expertise to nurture innovative ideas and catalyze meaningful collaborations among the participants.

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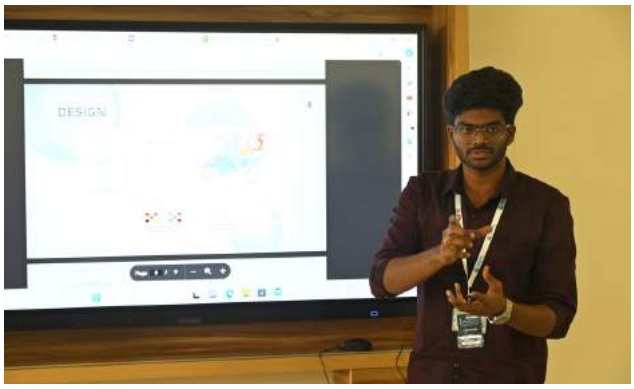


The denouement of the event was marked by an electrifying closing ceremony, where teams showcased their solutions before the jury and peers. The atmosphere was charged with anticipation as awards were conferred to recognize exceptional achievements. Categories included Best Innovation, Most Impactful Solution, Best Technical Implementation, and Best Presentation, spotlighting the diversity and depth of talent showcased at InnoQuest 2024.

In her closing remarks, Dr. Jayavrinda Vrindavanam, Chairperson and Professor of the Department of CSE (AI & ML) at DSU, expressed profound pride in the accomplishments of the participants. He underscored the significance of collaborative endeavors in propelling technological innovation towards tangible societal benefits.

In conclusion, InnoQuest 2024 emerged as a resounding success, epitomizing the spirit of innovation, collaboration, and a shared commitment to leveraging technology for positive societal transformation. As participants departed, they carried with them not just memories of a challenging Hackathon but also a sense of accomplishment and renewed fervor to apply their skills in tackling real-world challenges with ingenuity and compassion.

3-Day Workshop on Basic Robotics Simulations - YANTROVE Student Club

The Department of Computer Science and Engineering (AI & ML) at Dayananda Sagar University (DSU), in collaboration with the YANTROVE STUDENT CLUB, successfully conducted a comprehensive 3-day workshop focused on Basic Robotics Simulations. The workshop aimed to impart foundational knowledge and practical skills in robotics simulation to undergraduate students.

Day 1: Understanding Robotics Simulation Fundamentals

The workshop commenced with an in-depth exploration of Robotics Simulation Fundamentals. Participants were introduced to the definition, significance, and diverse applications of robotics simulation in modern engineering. Key topics covered included an overview of commonly used robotics simulation software platforms, essential concepts in robotics simulation such as kinematics, dynamics, sensors, actuators, and environment modeling. The day concluded with a hands-on session where participants installed and set up a basic robotics simulation environment, ensuring they were equipped to delve deeper into subsequent sessions.

Day 2: Simulating Robot Manipulators: Focused on Simulating Robot Manipulators, offering participants a detailed understanding of robot manipulators, their types, kinematics, and dynamics. Theoretical insights into forward and inverse kinematics were complemented by practical implementations, providing attendees with firsthand experience in simulating robot dynamics, including inertia, friction, and control mechanisms. The session also covered sensor modeling for simulating cameras, lidars, and other crucial sensors. Participants engaged in a hands-on session where they built and simulated a simple robot manipulator, applying the concepts learned earlier in the day.

Day 3: Mobile Robots and Navigation Simulation

The final day of the workshop centered on Mobile Robots and Navigation Simulation. Participants delved into the nuances of mobile robots, their locomotion types, and navigation principles. Practical sessions included simulating mobile robot motion for differential drive, holonomic, and omnidirectional robots, alongside comprehensive coverage of path planning and obstacle avoidance algorithms. Localization and mapping techniques, including Simultaneous Localization and Mapping (SLAM), were also explored in detail. The day concluded with a hands-on session where participants implemented and tested navigation algorithms within a simulated environment. The wrap-up session highlighted key takeaways and outlined future directions for participants to apply their newfound skills in real-world applications.

The workshop was enriched by the expertise and guidance of distinguished resource persons including Dr. Arun Ananthanarayanan from the Department of ECE, Prof. Abhinav Karan also from ECE, and Prof. Pradeep Kumar K from CSE (AI & ML), who delivered insightful sessions and mentored participants. Under the leadership of Dr. Amit Bhatt, In-charge Vice Chancellor, DSU, supported by Dr. Puttamadappa C, Registrar, DSU, Dr. Udaya Kumar Reddy KR, Dean of the School of Engineering, and Dr. Ramesh R Galigekere, Dean (Acad) Science & Technology, the workshop was meticulously organized. Dr. Jayavrinda Vrindavanam V, Professor & Chairperson of CSE (AI & ML), DSU, provided strategic guidance, ensuring the workshop achieved its educational goals.

Prof. Subhash Mondal and Prof. MithaGuru, as the faculty coordinators, overlooked the entire workshop, ensuring that all activities were conducted smoothly and that participants received comprehensive guidance and support throughout the event. The dedicated student coordinators—Mr. Utpal Kumar, Mr. R Sujay, Mr. Pushkar Pallav, and Mr. Akshath Agarwal from CSE (AI & ML)—played crucial roles in facilitating seamless sessions and enhancing the overall learning experience for all participants.

Unlocking Career Success: Insights from 'Tips and Tricks of GATE' Session at Dayananda Sagar University

The AI & ML department of Dayananda Sagar University organized an enlightening session titled "Tips and Tricks of GATE" in collaboration with IMS Gate Academy. Held to delve into the promising career avenues within Data Science (DS) and Artificial Intelligence (AI), the session provided attendees with essential insights into internship opportunities, advancements in AI, GATE exam preparation strategies, and current industry trends. The primary objective was to equip participants with strategic knowledge necessary to navigate the competitive job market in these burgeoning fields effectively.

Mr. Vineet Gupta, a distinguished speaker with a background of Masters from IIITB & JBIMS and B. Tech from SPCE, Mumbai, and notable experience spanning 15 years, served as the keynote presenter. With a track record of guiding over 30,000 GATE aspirants towards their goals at IITs and PSUs, Mr. Gupta brought invaluable expertise and practical advice to the session.

Under the leadership of Dr. Jayavrinda Vrindavanam, Professor and Chairperson of the Department of CSE (AI & ML), and with the coordination of Dr. Vinutha N, Associate Professor in the same department, the session was meticulously organized. Their efforts ensured the session not only met but exceeded educational expectations, fostering a platform for insightful discussions and meaningful interactions.

Ms. Shrusti Veerabasayya Goudar and Mr. Shreerama D, student coordinators from the Department of CSE (AI & ML), played pivotal roles in facilitating the smooth conduct of the session. Their dedication and organizational acumen contributed significantly to the overall success of the event.

The session underscored the critical importance of informed career planning and continuous skill development in DS and AI, reinforcing the university's commitment to preparing students for promising careers in cutting-edge technologies.

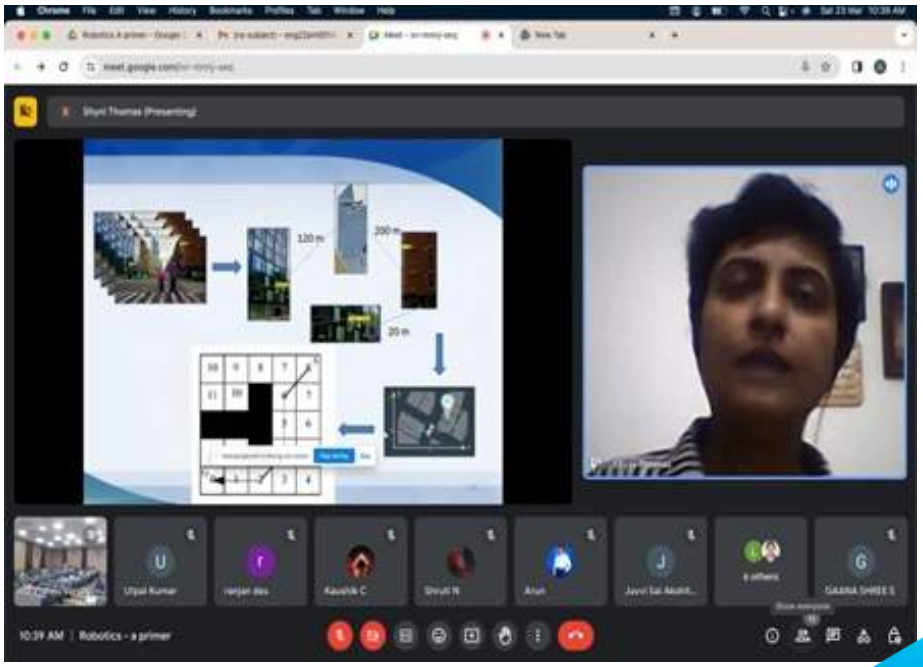
DRDO Scientist Unveils Robotics Revolution in DSU's 'Robotics - A Primer' Webinar

The AI & ML department, in collaboration with YANTROVE STUDENT CLUB, recently organized an enriching webinar titled "Robotics - A Primer," specifically tailored for 2nd-year students at DSU's Harohalli Campus.

The session featured Mrs. Shyni Thomas, a distinguished Senior Scientist from the Center for AI and Robotics at DRDO, who brought her extensive expertise to bear in delivering an insightful exploration of robotics and its myriad applications across various industries.

Mrs. Thomas commenced the webinar by laying a solid foundation in robotics, intricately weaving together principles from mechanical engineering, electrical engineering, and computer science that underpin the design and development of robotic systems. Her adept presentation style not only simplified complex concepts but also fostered a deep engagement among the attendees, comprising budding engineers eager to delve into the realm of robotics.

Throughout her discourse, Mrs. Thomas underscored the transformative impact of robotics on modern society. She elucidated on the diverse practical applications of robotics, ranging from enhancing industrial automation processes to revolutionizing healthcare delivery through surgical robotics and prosthetics. Additionally, she highlighted the pivotal role of robotics in advancing space exploration missions and its integration with artificial intelligence to create autonomous systems capable of learning and adapting.



The session concluded with a forward-looking perspective on the future of robotics, where Mrs. Thomas shared her insights into upcoming technological trends and the evolving role of robotics in shaping global industries. Her visionary outlook left a lasting impression on the attendees, instilling in them a sense of excitement and curiosity about the potential of robotics in solving complex societal challenges.

The webinar was hosted under the auspices of DSU's leadership, including Dr. Amith Bhatt, Dr. Puttamadappa C, Dr. Udaya Kumar Reddy K R, and Dr. Ramesh R Galigekere, who ensured the seamless organization and execution of the event. Dr. Jayavrinda Vrindavanam V,

Chairperson of the Department of CSE (AI & ML) at DSU, provided strategic oversight, emphasizing DSU's commitment to fostering cutting-edge knowledge dissemination in the fields of artificial intelligence and machine learning. Mrs. Shyni Thomas's webinar on "Robotics - A Primer" was a resounding success, not only imparting valuable technical knowledge but also inspiring DSU's students to explore the possibilities of robotics in shaping the future of technology and innovation.

Exploring Frontiers: Eight-Day Workshop on Recent Trends in Computer Vision and Fuzzy Logic

Dayananda Sagar University's School of Engineering hosted an intensive eight-day workshop, focused on "Recent Trends in Computer Vision and Fuzzy Logic," aimed at enriching the academic journey of second-year students in the Computer Science and Engineering (Artificial Intelligence and Machine Learning) program.

The workshop commenced with a comprehensive three-day session on "Fuzzy Sets, Fuzzy Logic, and Their Applications," providing foundational knowledge and practical insights to the participating students. Fuzzy logic, a key component of artificial intelligence, enables systems to deal with uncertainty and imprecision, mimicking human decision-making processes. Students learned about its applications in diverse fields such as automated reasoning, control systems, and pattern recognition.

Following this foundational segment, a dynamic two-day faculty interaction program on advanced research expertise was conducted by Dr. Pavel Skrabanek, PhD, an Associate Professor at Mendel University in Brno, Czechia Republic. This program facilitated an exchange of ideas and expertise among faculty members from Dayananda Sagar University, focusing on cutting-edge areas of computer vision. Computer vision, an interdisciplinary field, enables machines to interpret and understand visual information from the real world, paving the way for applications in autonomous vehicles, healthcare diagnostics, and augmented reality.

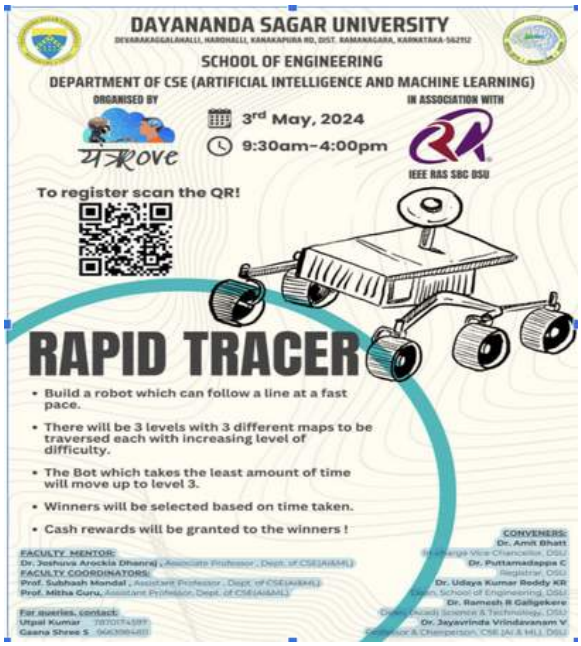
The workshop, spanning from 18th March 2024 to 28th March 2024, was meticulously organized under the guidance of Dr. Amit Bhatt, In-charge Vice Chancellor, along with Dr. Puttamadappa C, Registrar, Dr. Udaya Kumar Reddy K R, Dean of the School of Engineering, Dr. Ramesh R Galigekere, Dean (Academics) of the School of Engineering, Ms. Supriya Mathew, Vice President of International Affairs, and Dr. Jayavrinda Vrindavanam, Chairperson of the Department of CSE (AIML) at the School of Engineering, DSU.

Supporting this initiative were dedicated staff coordinators including Dr. Vinutha N, Dr. Vegi Fernando A, Dr. Monika G, Dr. Mude Nagarjuna Naik, Prof. Pradeep Kumar K, and Prof. Uday Bhaskar, all from the Department of CSE (AIML), School of Engineering, DSU. Their commitment ensured the seamless execution and academic rigor of the workshop.

Ms. Gaanashree, Mr. Yogesh N, Mr. Vinay R, and Ms. Shrusti Goudar, student coordinators from the 4th and 6th semesters of AIML at the School of Engineering, DSU, played pivotal roles in organizing and facilitating the workshop activities, thereby enriching the learning experience for their peers.

This workshop not only deepened participants' understanding of emerging trends in computer vision and fuzzy logic but also fostered a collaborative environment conducive to exploring new research frontiers and preparing future AI and ML professionals.

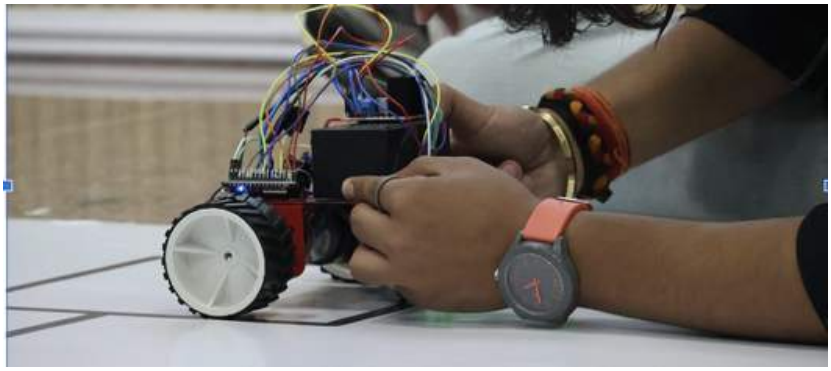
Dayananda Sagar University Hosts Thrilling "Rapid Tracer" Robotics Competition



The halls of Dayananda Sagar University (DSU) buzzed with excitement on May 3rd, 2024, as the "Rapid Tracer" event, co-organized by the Yantrove Robotics Club and the IEEE Robotics and Automation Society student branch (IEEE RAS SBC), brought together a vibrant community of robotics enthusiasts. This exhilarating competition served as a platform for students to showcase their ingenuity and passion for robotics, with meticulously crafted line-follower robots taking center stage.

The event commenced with a distinguished inaugural ceremony, graced by the presence of Dr. Gopal Sharma Joshi, a renowned professor in Space Research at CSST, DSU. Dr. Udaya Kumar Reddy, Dean of the School of Engineering (SoE), and Dr. Jayavrinda Vrindavanam, Chairperson of the Department of Computer Science & Engineering (AI & ML), also added prestige to the occasion. Their insightful words underscored the significance of the competition in fostering innovation and collaboration within the robotics domain.

Following the inspiring inauguration, the atmosphere crackled with anticipation as the competition unfolded across three rounds, each utilizing a knockout format. Teams meticulously calibrated their robots before embarking on challenging courses, navigating intricate tracks with precision and speed. Each round presented heightened difficulty, pushing the boundaries of robotic capabilities and testing the strategic prowess of operators.



The top three teams emerged victorious in the final round, their robots demonstrating exceptional agility, precision, and flawless execution.

Team ETERNATLS from Sri Rajarajeshwari Engineering College emerged as the champions, followed by Team Velocity Viper from DSU and Team Alpha Entiti, another DSU team, securing the first and second runner-up positions respectively.

Dayananda Sagar University Hosts Thrilling "Rapid Tracer" Robotics Competition

The "Rapid Tracer" event proved to be a resounding success, not only in terms of competition but also in fostering a spirit of camaraderie and knowledge exchange among participants. The dedication and expertise displayed by the student coordinators, Utpal Kumar, Gaana Shree, R Sujay, Akshat Agarwal, Pushkar Pallav, Soundarya Jois, Dhruti Purushotham, Manaswin Manoj, and Neha Amin, were instrumental in ensuring a smooth and successful event. The faculty advisors, Prof. Subhash Mondal and Prof. Mitha Guru, also played a pivotal role in mentoring students and overseeing the competition's technical aspects.

The event serves as a testament to Dayananda Sagar University's commitment to fostering excellence in engineering and technology, inspiring future generations to push the boundaries of what's possible in the exciting realm of robotics.

Revolutionizing Coding: The Copilot Safari Event at DSU

On the 24th of April 2024, Dayananda Sagar University hosted the Copilot Safari event, a pioneering collaboration between Microsoft Azure and Reskill. This enlightening session introduced students to the groundbreaking tool, GitHub Copilot. The event was a remarkable success, attracting a diverse crowd of students from various departments and academic years, with a strong representation from the 1st and 2nd-year cohorts.

The session was expertly led by Shreyan J D Fernandes, a seasoned Software Developer at KPMG, who provided invaluable insights into leveraging GitHub Copilot for enhanced coding efficiency and creativity. His practical expertise and engaging delivery captivated the audience, demonstrating real-world applications of this innovative tool.
The event was meticulously coordinated by Prof. Pradeep Kumar K, an esteemed Assistant Professor in the Department of CSE(AI&ML).

The event was hosted by Ritvik Vasundh and anchored by Neha Amin, both dynamic 2nd-year students from the Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning).

Their engaging presence ensured the session was both informative and interactive, fostering a vibrant learning atmosphere.

Dayananda Sagar University Unveils New Student Chapters in AI and Robotics

Dayananda Sagar University (DSU) is at the forefront of technological education, and their commitment continues with the inauguration of two new student chapters on June 3rd, 2024. The IEEE Computational Intelligence Society (CIS) and the IEEE Robotics and Automation Society (RAS) chapters were launched by the Department of Computer Science and Engineering (AI & ML) in collaboration with the IEEE Student Branch at DSU. These chapters delve into two of the most crucial fields shaping our world today: Artificial Intelligence and Robotics. By offering student memberships, these chapters will provide DSU students with exceptional opportunities to explore these exciting disciplines.

The inauguration ceremony was graced by prominent figures including Dr. Sumona Ashok (Chair, IEEE CIS Bangalore Chapter), Dr. Mangala Gowri S. G. (Secretary, IEEE RAS Bangalore Chapter), and esteemed faculty members from DSU. Dr. Udaya Kumar Reddy K R (Dean, School of Engineering), Dr. Jayavrinda Vrindavanam V (Chairperson, CSE (AI&ML)), Dr. Arun Balodi (Chairperson, ECE), Dr. Pushpa Mala S (IEEE Student Branch Counsellor), and Prof. Subhash Mondal (Faculty Advisor, IEEE CIS & RAS SBC) were all present to celebrate this momentous occasion.

Following the ceremony, students further enriched their knowledge by attending insightful talks. Dr. Sumona Ashok captivated the audience with her presentation on "Computational Intelligence: Advances, Challenges and Future," while Dr. Mangala Gowri S. G. delved into the practical applications of robotics and automation with her talk on "Advanced Application on Robotics and Automation."
The launch of these student chapters signifies DSU's dedication to fostering a culture of innovation and technological exploration amongst its students. With access to these valuable resources and mentorship from industry experts, DSU students are well-positioned to become future leaders in the fields of AI and Robotics.

Dayananda Sagar University's AI & ML Department Charts Course for Excellence: BoS Meeting Highlights Progress and Plans for the Future

The Department of Computer Science and Engineering (Artificial Intelligence & Machine Learning) at Dayananda Sagar University recently convened its Board of Studies (BoS) meeting for the 2023-2024 academic year. Chaired by Dr. Jayavrinda Vrindavanam, the meeting served as a platform to review departmental activities, curriculum developments, and strategic plans.

The report presented during the BoS meeting highlighted several noteworthy achievements. The department successfully introduced new courses in Artificial Intelligence and Machine Learning, keeping the curriculum aligned with the latest advancements in these rapidly evolving fields. Details regarding the specific courses were not included in the available information. The report also emphasized the department's fruitful collaborations with industry partners. These collaborations provide students with valuable industry exposure and equip them with the skills and knowledge sought after by potential employers. While specifics of the industry partnerships were not provided, their presence underscores Dayananda Sagar University's commitment to bridging the gap between academia and the professional world.

The BoS meeting also identified key challenges faced by the department. A crucial area of focus is faculty training. The department recognizes the need to continuously enhance faculty expertise in the ever-growing fields of AI and Machine Learning. Investing in faculty development programs will ensure professors remain at the forefront of their fields and can effectively guide students in their academic pursuits. Additionally, the need to improve existing online learning platforms was acknowledged. The ongoing shift towards online education necessitates robust and user-friendly platforms that facilitate effective learning experiences, even in remote settings. Specific areas for improvement in the online learning platforms were not mentioned in the report, but this focus on online learning reflects the department's commitment to providing accessible and adaptable educational opportunities.

The BoS meeting concluded with valuable insights from external panel members on the presented curriculum for different student batches. This collaborative approach ensures the department receives valuable feedback and incorporates diverse perspectives when shaping its curriculum. Overall, the BoS meeting served as a testament to Dayananda Sagar University's Department of Computer Science and Engineering (Artificial Intelligence & Machine Learning)'s commitment to academic excellence and continuous improvement. By addressing the identified challenges and capitalizing on existing strengths, the department is well-positioned to prepare students for success in the dynamic fields of AI and Machine Learning.

4th Sem Parents Teachers Meeting

Date: 09/05/2024
Time: 02:00 PM to 04:00 PM

The event began with a welcome by Dr. Jayavrinda V, Professor and Chairperson (AI&ML), who emphasized the importance of collaboration between parents and teachers for students' holistic development. Prof. Pradeep Kumar K discussed B.Tech students' academic performance, curriculum, examination patterns, and improvement strategies, encouraging an open dialogue with parents. Parents then attended department-wise breakout sessions led by Class Advisors Prof. Jeevaraj R, Prof. Pradeep Kumar K, and Prof. Mitha Guru, who addressed curriculum, student performance, and research and internship opportunities. Faculty members detailed support services such as counseling, career guidance, and extracurricular activities, urging parents to stay informed about their child's well-being. During the interactive Q&A session, concerns about examinations, attendance, and career prospects were addressed. Prof. Jeevaraj R assured that the ERP system is updating correctly and will resolve specific student issues, while Dr. Jayavrinda V mentioned plans for campus transportation to address the short lunch break issue and communicated concerns about the lack of evening snacks in the hostel to higher authorities. She also provided details on research activities, UG research courses, and faculty support for student research interests. Parents expressed satisfaction with the new campus, and the event concluded with high tea arranged by the management. This gathering underscored the university's commitment to enhancing student support and fostering a collaborative environment for student success, incorporating valuable feedback and suggestions from parents to further improve education quality and support services.

6th Sem Parents Teachers Meeting

DATE: 30-05-2024

Time: 11.00 AM – 1.00 PM

The Parent-Teacher meeting commenced with a warm welcome from Dr. Vinutha N., underscoring its significance for both students and the institution. Discussions began with updates on departmental activities, showcasing student achievements across various endeavors. Key highlights included mandatory attendance requirements (85%), the grading scheme (60:40 split), and the importance of parental involvement in monitoring their ward's academic progress through access to the ERP portal and attendance at mentoring sessions. Collaboration initiatives with universities and industries were highlighted, alongside opportunities for student skill enhancement through workshops and webinars. Individual student performance reports, including IA1 marks and current CGPA, were shared with parents, fostering transparency and informed dialogue. Parents expressed interest in more frequent meetings and provided valuable feedback for organizational improvement, underscoring the collaborative spirit between parents and the institution.

JAN-JUN 2024
Vol.2 Issue:1

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF CSE (AI & ML)

STUDENT ACHIEVEMENTS

Dayananda Sagar University's AI & ML Wizards Win Web3 Blockchain Hackathon!

Darshan Anand, Shreyas H Reddy, Shreyas S, and Soumyo Mandal, all 6th semester students from the AI & ML department at Dayananda Sagar University's School of Engineering, have emerged victorious! Their project, "DBank," secured first place at the Web3 Blockchain Hackathon organized by the CSE department at DSU's Kudlu Gate campus.

This innovative project reimagines finance with a focus on the ethical potential of Decentralized Finance (DeFi) to revolutionize traditional banking practices. Their win is a testament to the department's dedication to fostering future-ready talent who are equipped to tackle the challenges and opportunities presented by emerging technologies.

Dayananda Sagar University's AIEML Department Claims Top Spot at Hackathon!

Students from Dayananda Sagar University's School of Engineering, Department of AI&ML, have emerged victorious at HackNXS, a 24-hour hackathon organized by MAHE Bengaluru-Yelahanka. The winning team, aptly named "Init to Winit," battled it out for a full day, crafting a Generative AI project focused on sustainable development for virtual classrooms.

Their innovative creation impressed a panel of judges from industry giants like Google and IBM, ultimately leading them to claim the coveted first-place title and a cool cash prize of INR 50,000! Ratan Ravichandran, Sayli Pankaj Bande, and Sri Bharath Sharma P can all be proud of their accomplishment, showcasing the exceptional talent within Dayananda Sagar University's AI&ML department.

DSU's Dream Team Makes a Splash in IoT Project Competition!

Dayananda Sagar University (DSU) has brought home the hardware, bagging 2nd place and a cash prize of Rs 4,000 in an IoT project-based idea competition conducted by the Department of Computer Science & Engineering (CSE) within the School of Engineering (SOE).

This winning team, comprised of Kaushik (AIML), Patrick Rozario (AIML), Suhagh A N (CSE), and Vinutha V (CSE), proves that DSU's talent pool extends beyond just one department. Their innovative IoT project idea impressed the judges, solidifying their place among the competition's frontrunners.

Dayananda Sagar's GaanaShree Wins Best Presentation Award!

GaanaShree (ENG22AM0014), a rising star from the 4th semester of Dayananda Sagar University's AI&ML department, has impressed at the "MIMAMSA- ONE DAY STUDENT NATIONAL SEMINAR" held at St. Francis De Sales College, Bengaluru. GaanaShree's presentation titled "PARTH: Paralysis Therapy and Monitoring Device" captivated the audience and judges, securing them the coveted Best Presentation Award along with a cash prize of Rs 2,000! This achievement highlights the innovative spirit and exceptional talent within the AI&ML department at Dayananda Sagar University.

DSU AIML Students Strike Gold at GE Healthcare Competition!

Three AI&ML stars from Dayananda Sagar University are shining bright after conquering GE Healthcare's Bangalore competition! Sayli Pankaj Bande, Bharath Sharma, and Sakshi Archana, all 6th-semester powerhouses, battled their way to the finals and emerged victorious.

Their winning project? An innovative, interactive oncology information resource designed to be a beacon of knowledge for both patients and caregivers. This project impressed the judges so much, it not only earned them a coveted spot among the final 12, but also landed them a whopping prize of 1 lakh rupees!

This win is a true testament to the exceptional talent cultivated within DSU's AI&ML department. Sayli, Bharath, and Sakshi's dedication to creating a real-world impact with their skills is an inspiration to their peers and a shining example of the future of AI&ML in healthcare. Congratulations to these brilliant minds on their well-deserved win!

DSU Team Triumphs in Techkriti '24 Capture-The-Flag!

We're over the moon with pride as our AI & ML and Cybersecurity squad from Dayananda Sagar University absolutely DOMINATED the Capture the Flag competition at IIT Kanpur's Techkriti'24!
Bilal Ahmed, Eeshaan Bhat, Gagan Nagarjuna, Saurav Pandey, and Shashwat Saini - you guys are absolute legends! Your strategic brilliance and technical prowess have made DSU a force to reckon with in the cybersecurity world.
This victory isn't just a win for our team, but a testament to DSU's commitment to nurturing top-tier tech talent. A massive shoutout to the organizers of Techkriti'24 for creating such an incredible platform and to DSU for fostering an environment of innovation and excellence.

6TH SEM AI-ML STUDENTS BAGGED 2ND PRIZE!! AT IOT BASED COMPETITION

Congratulations 💐to the 6th semester students of AIML. They bagged 2nd place and won a cash prize of Rs 4000 in IOT project based idea competition conducted by Department of CSE, SOE, DSU(Team members - Kaushik(AIML), Patrick Rozario(AIML), Suhagh A N(CSE department), Vinutha V(CSE department))

JAN-JUN 2024
Vol.2 Issue:1

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF CSE (AI & ML)

INTERNSHIPS & PLACEMENTS

INTERNSHIPS

USN	NAME	COMPANY NAME	AMOUNT
ENG20AM0002	ABHILASH S BHARADWAJ	Sysfore Technologies Pvt Ltd	20000
ENG20AM0005	AKASH SHARMA	tata elxsi	10000
ENG20AM0006	AKSHAY DEEP HEGDE	Null Class	3000
ENG20AM0010	ANIRUDH NARAYANAN	Shadowfax Technologies	15000
ENG20AM0011	ANKIREDDYPALLI KAVYASUDHA REDDY	KPMG INDIA	20000
ENG20AM0021	DHANVI KARANAM	Medfam	20000
ENG20AM0027	HARI PRADHA P	Infosys-Edgeverve	20000
ENG20AM0028	HARIKA GANDIBOINA	Moog India Technology Centre	10000
ENG20AM0037	MANOJ Y	Iron mountain	30000
ENG20AM0039	MISHIKA SHAH	CloudSEK	25000
ENG20AM0040	MOHAMMED FUZAIL	Emplay Inc.	20000
ENG20AM0043	PUTHINEEDI MSK RAJ KUMAR	Movidu	15000
ENG20AM0044	RAGHAV	DataFlair Web Services	8000
ENG20AM0045	RAYE HAARIKA	Namaste Credit	15000
ENG20AM0046	ROHAN R	Infosys Edgeverve finacle	20000
ENG20AM0048	SAHANA B	IN TIME TEC	15000
ENG20AM0052	SHIVENDU PRATAP SINGH	Techjet.ai	10000
ENG20AM0055	SOUNTHARIYAA J	IQVIA	18000
ENG20AM0056	S THARUN SUBRAMANYA	Contlo	25000
ENG20AM0057	VIKAS JUTLAD	Edgeverve systems limited	20000
ENG20AM0060	VISWAMBER PRASAD	AERO 360 - Dronix Technologies (from nov to feb)	10000
ENG20AM0062	YATHISH M	Edgeverve systems limited	20000
ENG20AM0064	SUMANTH KUMAR KILARI	FRAGOMEN IMMIGRATION SERVICES PVT LTD	20000
ENG21AM3003	BENSON T YOHANNAN	Edgeverve Pvt Ltd	20000
ENG21AM3009	HRIDANSHU RUPAREL	BUNDL Technologies Pvt Ltd	20000
ENG21AM3011	K KUSUMITHA	Clinysys	20000
ENG21AM3014	KASURU KODANDA RAMA RAJU	Superfone Pvt Lmt	20000
ENG21AM3016	VIDHI KESHWANI	INRY	30000
ENG21AM3018	KRISHNA KANT DASH	Edgeverve Pvt Ltd	20000
ENG21AM3019	L ANAGHA	Edgeverve Pvt Ltd	20000
ENG21AM3021	MOHAMAD TABISH H A	Joboxhire	20000
ENG21AM3022	AMRIN BUSHRA TAJ	Edgeverve Pvt Ltd	20000
ENG21AM3023	S MOHAMMED ARBAZ	Jobboxhire Pvt Ltd	20000
ENG21AM3035	SIDDHARTH MEHER	Wubba Lubba Dubb Dubb	22000
ENG21AM3039	SUHAS SHRINIVAS PATIL	Movidu technology pvt limited	15000

PLACEMENTS

YASH NARULE

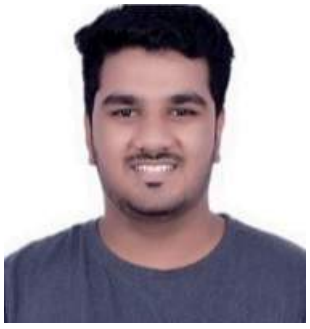
We are thrilled to announce that Yash Mahesh Narule, a student of our CSE (AI and ML) department at Dayananda Sagar University, has secured a position at Toyota Connected with a package of 35 lakhs per annum. Our department's unwavering support, numerous growth opportunities, and dedicated guidance have contributed to Yash's success. Our professors and placement department have been instrumental in his journey, from crafting his first resume to interview preparation. This achievement is a testament to Yash's dedication, hard work, and passion for the field. We are confident he will continue to excel and make significant contributions to the industry.

BENSON YOHANA

We are thrilled to announce that Benson Yohana, a student of our CSE (AI and ML) department at Dayananda Sagar University, has secured a position at Intelligent Science with a package of 27.5 lakhs per annum. Our department has been very supportive and encouraging, with teachers always willing to help. The informative and useful course material provided each semester, along with a funded campus visit to Continental Automotive, multiple hackathons, and workshops/seminars with industry experts, have all contributed to Benson securing multiple placement opportunities. This achievement is a testament to Benson's dedication, hard work, and passion for the field. We are confident he will continue to excel and make significant contributions to the industry.

PULKIT SHAKYA

We are thrilled to announce that Pulkit Shakya a student of our CSE (AI and ML) department at Dayananda Sagar University, has secured a position at The Japan Research Institute with a package of 17 lakhs per annum. The new specialization courses in AIML within the B.Tech programme helped Pulkit acquire the skills needed to meet current industry norms and criteria. The key subjects offered by the AIML department provided fresh perspectives and abilities beyond standard courses. I extend our deepest gratitude to DSU and the entire AIML department for their cutting-edge information, unwavering support, and encouragement throughout the course and placement process. This achievement is a testament to Pulkit's dedication, hard work, and passion for the field. We are confident he will continue to excel and make significant contributions to the industry.



GOPIKA JAYADEV

We are thrilled to announce that Gopika Jayadev, a student of our CSE (AI and ML) department at Dayananda Sagar University, has secured a position at Microsoft with a package of 9.48 lakhs per annum. Our teachers are always supportive, assisting with lessons, projects, and personal issues, and providing excellent internship opportunities through their connections. They also encourage and guide students in publishing papers in conferences or journals. This achievement is a testament to Gopika's dedication, hard work, and passion for the field. We are confident she will continue to excel and make significant contributions to the industry.

PUNITH PECHETTI

We are excited to announce that our student, Punith Pechetti, has been accepted into the prestigious Master of Science in Data Science - Computational program at the New Jersey Institute of Technology.

This exceptional achievement reflects Punith's dedication, hard work, and passion for advancing in the field of data science. We are immensely proud of Punith's accomplishment and are confident that he will continue to excel and make significant contributions to the industry.

RAGHAV NANJAPPAN

We are delighted to announce that our student, Raghav Nanjappan, has been accepted into the prestigious Master's program in Computer and Information Science and Engineering at the University of Florida's Herbert College.

This achievement reflects Raghav's dedication, hard work, and passion for advancing in the field of computer science. We are immensely proud of Raghav's accomplishment and are confident that he will continue to excel and make significant contributions to the industry.

SUBHA PRAKASH PATTNAIK

We are proud to announce that our fellow student, Subha Prakash Pattnaik, has successfully registered a new startup on January 20, 2024. This promising venture, comprising a dynamic team of six members, exemplifies the innovative spirit of our student body.

Subha Prakash Pattnaik’s entrepreneurial success is a testament to the hard work, creativity, and dedication prevalent within our community. We are excited to follow the journey of this startup and witness the positive changes it will bring.

RAYE HARIKA

We are thrilled to announce that our student, Raye Harika, has secured impressive job offers from two leading companies. Raye has received an offer from Microsoft with a package of 9.48 LPA and another offer from Namaste Credit Technology with a package of 9 LPA.

This outstanding achievement reflects Raye's dedication, hard work, and exceptional skills. We are incredibly proud of Raye's success and are confident that she will excel in her future endeavors.

GAURAV KAMATH

Toper (7th sem) and worked as an intern in IISc

We are thrilled to announce that our student, Gaurav Kamath, has been placed at EY India. Alongside this impressive placement, Gaurav has been actively involved in research and has successfully published a paper, demonstrating his dedication and hard work.

Gaurav's accomplishments reflect not only his commitment to academic and professional excellence but also his passion for contributing to the field of research. We are immensely proud of his achievements and look forward to the positive impact he will continue to make.

VIDHI KESHWANI

We are delighted to announce that our student, Vidhi Keshwani, has achieved an exceptional milestone by receiving the maximum number of offers—three in total. Among these offers, Vidhi has accepted a position at INRY with an impressive package of 8.41 LPA.

This remarkable accomplishment reflects Vidhi's dedication, hard work, and outstanding capabilities. We are incredibly proud of Vidhi's success and are confident that she will excel in her role at INRY.

Congratulations to Vidhi Keshwani on this outstanding achievement. We wish her continued success in her professional journey!

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DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
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FACULTY ACHIEVEMENTS

Dr.Monika Goyal

Published Papers:

- **Monika Agarwal**, Geeta Rani, Ambeshwar Kumar, Pradeep Kumar, R. Manikandan, Amir H. Gandomi, Deep learning for enhanced brain Tumor Detection and classification**, Results in Engineering, Elsevier, vol. 22, April 20241. (Q1 SCI Indexed Journal)**
- **Monika Agarwal**, Geeta Rani*, Vijaypal Singh Dhaka and Nitesh Pradhan, A Robust Model for Optimum Medical Image Contrast Enhancement and Tumor Screening**, Deep Learning for Healthcare Services Book, Bentham Science publisher, vol. 22, pp. 90-111.**
- Nitesh Pradhan, Vijaypal Singh Dhaka, Geeta Rani and **Monika Agarwal**, Role of Artificial Intelligence in 3-D Bone Image Reconstruction: A Review**, Deep Learning for Healthcare Services Book, Bentham Science publisher, vol. 14, pp. 17-30.**
- Ambeshwar Kumar; Manikandan Ramachandran; M. Manjula; **Monika Agarwal**; Pooja; Utku Köse, "Security, Privacy, Trust, and Other Issues in Industries 4.0," **in Topics in Artificial Intelligence Applied to Industry 4.0 , Wiley, 2024, pp.223-237.**
- Rupam Singh, Narayan Kulshrestha, Aparajita Sinha, **Monika Agarwal** and Bishal Sinha, Twitter Sentiment Analysis using Machine Learning Algorithms: A Comparative Analysis**, 5th International Conference On Communication and Intelligent Systems (ICCIS 2023), NIT Jaipur.**
- **Agarwal, M.,** Rohan, R., Nikhil, C., Yathish, M., Mohith, K. (2024). Classification of Brain Tumour Disease with Transfer Learning Using Modified Pre-trained Deep Convolutional Neural Network. **In: Scopus Indexed 4th International Conference on Data Scienceand Applications (ICDSA 2023), pp 485-498, 18 January 2024.**

Edited Books

1. **Joshuva Arockia Dhanraj**, Arun Kumar Sandu, Kunal D. Gaikwad. ***AI for everyone: Demystifying artificial intelligence for the Masses***. June 2024. ISBN: 9789362946577, BR International.

Book Chapters

1. Goswami B, Maheswari P, Aswini K, Raj VH, **Dhanraj JA**, Singla A. An Extensive Analysis of Technological Frameworks With the Rise of Industry 5.0. ***InPoweringIndustry 5.0 and Sustainable Development Through Innovation*** 2024 (pp. 59-72). IGI Global

Publications

1. Srinivas D, Kirthiga N, Vani VD, Raj VH, Nijhawan G, Dhanraj JA. Enhancing Supply Chain Management Efficiency with IoT and Machine Learning Integration. In2024 International Conference on Science Technology Engineering and Management (ICSTEM) 2024 Apr 26 (pp. 1-6). IEEE.
2. Yamsani N, Muthukumaran K, Kumar BS, Asha V, Singh N, Dhanraj J. IoT-Based Livestock Monitoring and Management System Using Machine Learning Algorithms. In2024 International Conference on Science Technology Engineering and Management (ICSTEM) 2024 Apr 26 (pp. 1-6). IEEE.

Dr.Joshuva Arockia Dhanraj

Short Term Courses / Training Programs / Workshop Attended

Sl. No	Title	Level of Event (International/National)	Dates	Role	Venue
1.	Developing Ethics and Values in Curriculum Implementation (NITTTR)	National	22/04/2024 to 26/04/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
2.	Effective Curriculum Design and Evaluation (NITTTR)	National	18/03/2024 to 22/03/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
3.	NSQF Aligned Skill Development (NITTTR)	National	19/02/2024 to 23/02/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India

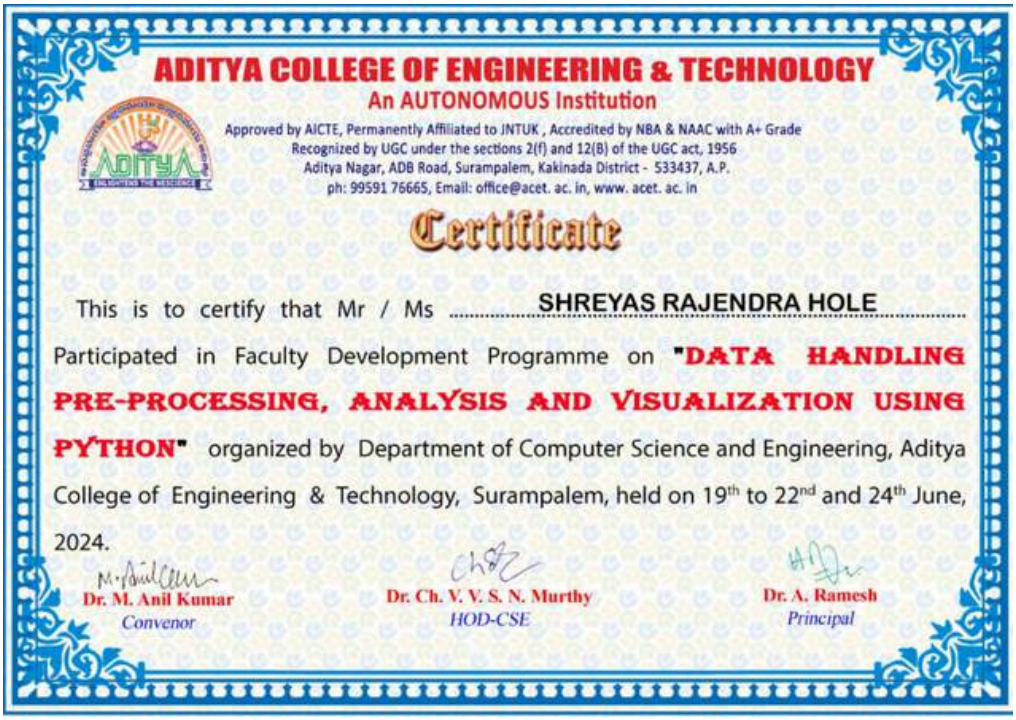
Dr.Sumit Kumar Yadav

FDP

Dr. Sumit Kumar Yadav

For delivering an expert lecturer on “Hazy Image Restoration” in five days FDP /Workshop on “CONTEMPORARY IMAGE PROCESSING AND CYBER SECURITY APPLICATIONS (CIPCSSA) (Hybrid mode)” jointly organised by department of CSE-Cyber Security and Dept. Of Electronica and Communications Engineering, Indian Institution of Information Technology Kottayam during 6th to 10th May 2024.

Date: 19 June 2024 to 24 June 2024
Venue: Online
Topic: A Five Day Faculty Development Program on "Data Handling, Pre-processing, Analysis, and Visualization using Python."
Organizer: Department of CSE,
Aditya College of Engineering and Technology,
Surampalem.
Certificate: Yes



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Aditya Nagar, ADB Road, Surampalem, Kakinada District - 533437, A.P.
ph: 99591 76665, Email: office@acet. ac. in, www. acet. ac. in

Certificate

This is to certify that Mr / Ms SHREYAS RAJENDRA HOLE Participated in Faculty Development Programme on "DATA HANDLING PRE-PROCESSING, ANALYSIS AND VISUALIZATION USING PYTHON" organized by Department of Computer Science and Engineering, Aditya College of Engineering & Technology, Surampalem, held on 19th to 22nd and 24th June, 2024.

Dr. M. Anil Kumar, Convenor
Dr. Ch. V. V. S. N. Murthy, HOD-CSE
Dr. A. Ramesh, Principal

Dr.Shreyas Rajendra Hole

Date: 21 June 2024
Venue: Online
Activity: Yoga day
Organizer: Sri Sri School of Yoga
Certificate: Yes

CERTIFICATE OF PARTICIPATION

This is to certify that Ku. / Shri / Smt. SHREYAS RAJENDRA HOLE Davananda Sagar Univer
has successfully participated in the International Day of Yoga organized by the
Sri Sri School of Yoga.

Date: 21 Jun 24
Location: Bangalore , Karnataka

Certificate No. NCAP92451-174

Vasanti Iyer
CEO, Director
Sri Sri School of Yoga,India

Date: 01 July-06 July 2024
Venue: Online
Topic: One week International Online FDP on Emerging Trends in Electronic Circuit Design, Signal Processing, and Communications
Organizer: Department of Electronics And Communication Engineering
Koneru Lakshmaiah Education Foundation Deemed To Be University Off-Campus Bowrampet, Hyderabad, Telangana. Pin Code: 500043.
Certificate: (Not Yet Provided)

Dr.Vegi Fernando

Paper publication

1. An AI-Enhanced IoT Model for Three-Way Authentication and Location Tracking in Secured jewellery Boxes, 5th international conference on ICMCSI, Jan 2024
2. Hybrid Fault prediction and Recovery framework for VANETs using AI and Federated IoT, 7th International conference on ICICT 2024, April 2024

.

Resource Person

Delivered expert lecture on “Innovative Applications of AI for Sentimental Analysis” at RajaRajeswari Engineering College, Bengaluru on 08-02-2024

Prof.Sriramkumar R

FDP/Workshop

1. One day workshop on Eco Drive: Accelerating sustainable Electric Mobility on 11.05.2024

2. Two weeks International Faculty Development Program on “Advancement in Quantum Computing and Sensor Technology for visit Bharath @ 2047” Organized by Oxford college of Engineering on 15.04.2024 to 27.04.2024

Book Publication

1. Internet Programming (A complete Guide) Book Publisher : Amazon Kindle Edition ,ASIN: B0D83F146L, Published on 26.06.2024

Prof.Pavithra A

Paper Publication

1. ML Based Emergency Vehicle Detection Using IOT has been published in TSJ(Technical Security Journal) , Volume 24, Issue 5,may 2024.

Prof.Udayabhaskara N

Published a conference paper in **2024 International Conference on Computing and Data Science (ICCDS)** titled “Multilingual Transformer for Dynamic Cricket Commentary Generation” (Electronic ISBN:979-8-3503-6533-7).

Communicated a conference paper in **International Conference on Artificial Intelligence and Signal Processing (AISP),** titled “The Transformative Potential of sEMG and AI in Neuromuscular Disease Detection.”

Domain of interest: AI&ML,NLM,LLM, Computer Vision, Digital Signal Processing, Computational Phylosophy.

Prof.Subhash Mondal

1.Mondal, S., Barman, M. & Nag, A. Question classification task based on deep learning models with self-attention mechanism. Multimedia Tools Applications, Springer (2024).1. (SJR-Q1-WoS-SCI-IF-3.0)

2. ***S. Mondal***, R. Maity, Y. Omo, S. Ghosh and A. Nag, "An Efficient Computational Risk Prediction Model of Heart Diseases Based on Dual-Stage Stacked Machine Learning Approaches," in IEEE Access, vol. 12, pp. 7255-7270, 2024.1. (SJR-Q1-WoS-SCI-IF-3.4)

3. ***Mondal, S.,*** Ghosh, S. & Nag, A. Brain stroke prediction model based on boosting and stacking ensemble approach. International Journal of Information Technology (IJIT), Springer. 16, 437–446 (2024).(SJR-Q2-Scopus, WoS)

4.**S. Mondal**, A. K. Barman, S. Basumatary, M. Barman, C. Rai and A. Nag, "Cancer Text Article Categorization and Prediction Model Based on Machine Learning Approach," 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon), HASSAN, India, 2023, pp. 1-6 (Scopus).

5.**S. Mondal**, S. Roy, J. R, M. J. E, M. Ghosh and A. Nag, "Random Forest-based Underwater Temperature Prediction Model for IoT Devices," 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon), HASSAN, India, 2023, pp. 1-6.

FDP:

1. Attended 2-week online Refresher Course on “Artificial Intelligence for Computer Vision & Image Processing” under Malaviya Mission Teacher Training Programme of University Grants Commission Organized by Malaviya Mission Teacher Training Centre, National Institute of Technology Warangal from 01-05-2024 to 15-05-2024.

Dr.Vinutha N

1.Dr. Vinutha N published a patent on Anti Sleep Alarm Detectors for Drivers; Application Number:202341088645

2.Resource Person for Five Days Workshop on Manuscript Writing using Open Source Softwares

1. Co-authored a book chapter on "Security, Privacy, Trust, and Other Issues in Industry 4.0" in the book titled "Topics in Artificial Intelligence Applied to Industry 4.0," published by Wiley Publications.

2.Monika Agarwal, Geeta Rani, Ambeshwar Kumar, **Pradeep Kumar**, R. Manikandan, Amir H. Gandomi, Deep learning for enhanced brain Tumor Detection and classification, Results in Engineering, Elsevier, vol. 22, April 2024, (Q1 SCI Indexed Journal).

Prof.Pradeep Kumar K

GALLERY

JAN-JUN 2024

GALLERY

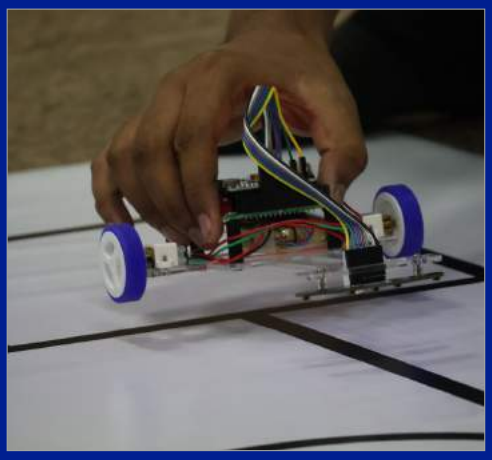
GALLERY









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