DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

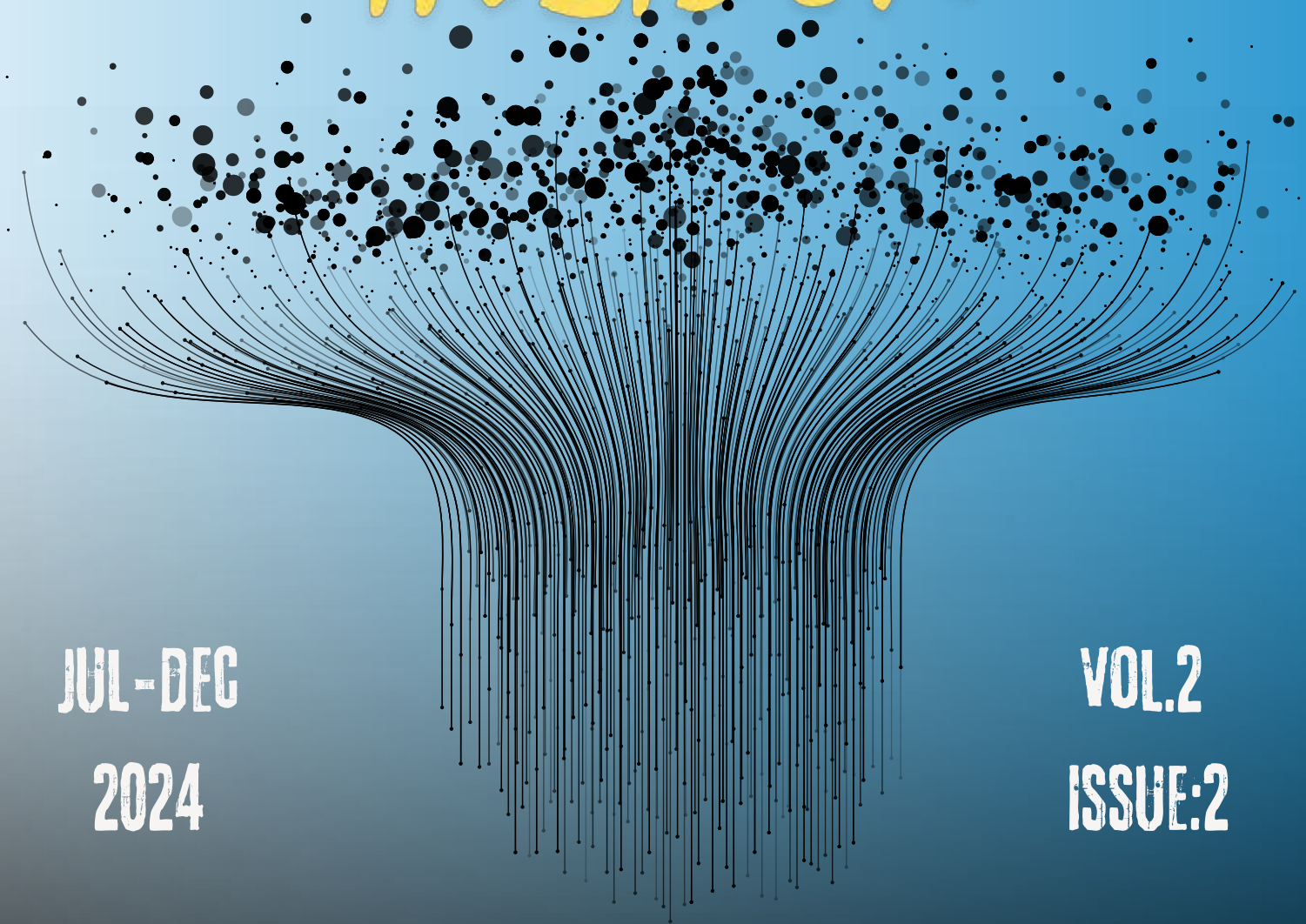
DEPARTMENT OF

CSE (ARTIFICAL INTELLIGENCE & MACHINE LEARNING)

PRESENTS

THE

ML INSIDER



JUL-DEC 2024

VOL.2 ISSUE:2

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

SCHOOL OF ENGINEERING BLOCK

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

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.

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

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

DEPT. OF CSE (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

SCHOOL OF ENGINEERING

CHAIRPERSONS'S MESSAGE

Dr. Jayavrinda Vrindavanam V
Professor & Chairperson, CSE (AI & ML)
SOE, DSU

It is with great pleasure that I am writing this message for Volume-2 Issue 02 of the Computer Science and Engineering (Artificial Intelligence & Machine Learning) Program Newsletter for the academic year 2024-2025. 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 54 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. Naveen Babu
Associate Dean &
Professor

Dr. Naveen Babu is a Associate Dean & Professor in the School of Engineering, AI & ML department, with 21 years of experience. His expertise includes Machine Learning, Computer Vision, Wireless Communication, RF and Microwave Theory, and Vacuum Devices. He has published over 35 articles in prestigious journals like IEEE Transactions and PIER, filed five Indian and one international patent, and authored several books and chapters. A recipient of the Indo-Canadian Sastry Award and SERB Travel Grant (2024), he has completed DRDO-sponsored R&D projects and guided 150+ undergraduate, 12 postgraduate, and three PhD students. Dr. Babu is a Fellow of IETE, IEEE Senior Member, and Life Member of ISTE.

Dr. B. S. Rangaraj
Research Professor

Dr. 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.

DEPARTMENT FACULTY

Dr. Hanumanth Sastry Sistla, Professor

Dr. Hanumanth Sastry Sistla is a Professor in the Department of Computer Science Engineering (AI & ML) with extensive experience in academia, industry, and research. He is an invited speaker at prestigious conferences and universities worldwide. His expertise spans AI, ML, Deep Learning, Generative AI, and Quantitative Finance. With a PhD from Andhra University (2016) and degrees from Delhi University, Pondicherry University, and NIELIT, he has served as a Lead Architect in AIML workflows and published over 20 papers in international journals and IEEE conferences. His research focuses on AI, Big Data, Predictive Analytics, and Risk Modelling in FinTech.

Dr. Bahubali Shiragapur,Professor

Dr. Bahubali Shiragapur is a Professor in the School of Engineering, AI & ML department, with 23 years of experience. His expertise spans Machine Learning, Quantum Computing, Wireless Communication, Robotics, IoT, Image and Signal Processing, and Coding Theory. He has published over 40 articles in peer-reviewed journals, filed three Indian patents, authored a book and three book chapters with CRC Press, and completed three R&D-funded projects. He has guided 50+ undergraduate, seven postgraduate, and four PhD students (one graduated in 2024).
Previously, Dr. Bahubali served as Director at D Y Patil International University and held key roles like Dean R&D and Head of TBI at Ajeenkya DY Patil School of Engineering. A mentor for ABU ROBOCON and IRO competitions, he is a reviewer for journals like IEEE and Springer and a Life Member of ISTE and SDIWC.

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.

DEPARTMENT FACULTY

Dr. Gouranga Mandal
Associate Professor

Dr. Gouranga Mandal is an Associate Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. He holds a Ph.D. in Computer Science and Engineering from NIT Agartala (2022) and has over nine years of teaching, three years of research, and one year of industry experience. He previously held academic roles at VIT-AP University, ICFAI University Tripura, and others, earning accolades like the Best Faculty Award (2023) and Research (Patent) Award (2024).
Dr. Mandal's research interests include image and video processing, computer vision, intelligent transportation systems, NLP, OCR, and pattern recognition. He has published extensively in SCI/SCIE and Scopus-indexed journals and conferences and holds six patents. He has guided one Ph.D. scholar and multiple students, organized conferences like ICKEAI-2024, and conducted workshops and FDPs. An active reviewer for leading journals, he is also a member of CSI, IAENG, and ISAC.

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.

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.

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. 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.

Dr. M Lakshmanan
Assistant Professor

Dr. M. Lakshmanan serves as an Assistant Professor in the Department of Computer Science and Engineering (AI & ML). He earned his Ph.D. in Information and Communication Systems from Anna University in 2024. Prior to this, he completed his M.E. in Software Engineering (2013) and his B.E. in Computer Science and Engineering (2011), both from Anna University. With 12 years of academic experience at esteemed institutions, Dr. Lakshmanan focuses his research on Blockchain Technology applications in healthcare, particularly in Electronic Health Records, Data Security, and Health Data Analytics. He has contributed over 22 publications in SCI(E)-indexed journals, international conferences, and UGC Care Listed journals, and he holds one international patent.

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.

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 Machine Learning, Artificial Intelligence, Wireless Sensor Networks, Embedded Systems, IoT, and advanced electronics. With 09 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.

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 18 years 6 months of teaching experience in CSE domains. Currently, he has published 35 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.

DEPARTMENT FACULTY

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.

Prof. 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.

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.

Prof. Shivashankara N
Assistant Professor

Mr. Shivashankara N is currently working as an assistant professor in Computer Science and Engineering (AI&ML) at Dayananda Sagar University in Bangalore, India. Prof. Shivashankara N. has completed M. Tech. From Department of Computer Science, University of Mysore, Mysore and completed B. E. from MiT Mysore, Mysore. His research areas are Wireless Sensor Networks, Image Compression, Image processing, Machine Learning. Prof. Shivashankara N. has 7 years of teaching experience. He has published over 4 papers in international conferences.

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.

DEPARTMENT FACULTY

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.

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 .

DEPARTMENT FACULTY

Prof. Rakshitha R
Assistant Professor

Mrs. 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.

Prof. D. Yaso Omkari
Assistant professor

Ms. D. Yaso Omkari is currently working as an Assistant Professor in Computer Science and Engineering (AI&ML) at Dayananda Sagar University in Bangalore, India. Prior to this, she served as an Assistant Professor in the Department of Computer Science and Engineering at Sri Venkateswara College of Engineering, Tirupati, Andhra Pradesh. Ms. Omkari is pursuing her Doctorate of Philosophy (Ph.D.) in the field of Machine Learning and Deep Learning in the Healthcare domain from VIT-AP University, Amaravati, Andhra Pradesh, in the School of Computer Science and Engineering (SCOPE) department since July 2021. She completed her M. Tech (2014) and B. Tech (2009) in CSE from JNTU Anantapur, Andhra Pradesh, India. She has 4 years of teaching experience. She has published two SCI-indexed papers, two SCOPUS-indexed papers, two patents, and has presented at two conferences. During her Ph.D., she received the VIT-AP University Research Award in 2024. Her research interests include Machine Learning, Deep Learning, Explainable AI, Multi-modal data integration, and real-time health monitoring using IoT.

NEWLY JOINED DEPARTMENT FACULTY

Dr. Abdul Haq Nalband
Associate Professor

Dr. Abdul Haq Nalband is an Associate Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. He holds a Ph.D. in 5G Technologies from REVA University (2022) and recently completed a Visiting Postdoctoral Fellowship in Cybersecurity at City, University of London, UK. With 11 years of teaching, seven years of research, and one year of industry experience, he has also served as a nodal officer for NBA and NAAC accreditations, focusing on skill development and industry collaboration.

Dr. Abdul Haq has published over 20 research articles, holds three patents (including one international patent), and is currently working on an ISRO-funded project on ultra-massive MIMO architecture. His research interests include 5G and Beyond, AI, IoT Security, and wireless communication. He is a member of IEEE, a Life Member of ISTE, and an Associate Member of IETE, India.

Dr. Sugandha Saxena
Assistant Professor

Dr. Sugandha Saxena is an Assistant Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. She holds a B.Tech in Electronics and Communication Engineering from Rajasthan Technical University (2010) and an M.Tech in VLSI Design from Amity University, Noida (2013). In 2024, she completed her Ph.D. in Artificial Intelligence from REVA University.

With over 11 years of teaching experience and five years of research expertise, Dr. Saxena has also taken on various administrative responsibilities, including coordinating NIRF and NAAC accreditations, managing NBA Criterion 5, and serving as a research and cultural coordinator.

She has published more than 10 research articles in indexed journals and conferences and holds two patents for her innovations. She is a member of IEEE India and her research interests include deep convolutional networks, image processing, pattern recognition, and medical imaging

Prof. S.V.K.R.Rajeswari
Assistant Professor

Ms. S.V.K.R. Rajeswari is an Assistant Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. She holds a B.Tech. in Electronics and Communication Engineering from Bandari Srinivas Institute of Technology and an M.Tech. in Embedded Systems Technology from SRM Institute of Science and Technology. With over four years of teaching and research experience, she has earned accolades such as the NPTEL Elite+Gold Medal and two consecutive awards for Best Poster Presentation. She has also applied for two patents related to her research.

Ms. Rajeswari specializes in designing noninvasive biomedical devices for diagnosis, treatment optimization, and cure, with three devices and a software tool clinically tested at SRM Medical College. Her research integrates biomedical devices with AI, ML, and Data Science. She has published extensively in SCI/SCIE and Scopus-indexed journals, serves as a reviewer for IEEE Access and Taylor & Francis, and is a public speaker and life coach in self-transformation and career development.

NEWLY JOINED DEPARTMENT FACULTY

Prof. Bhuvana Mohini T N
Assistant Professor

Ms. Bhuvana Mohini T N is currently serving as an Assistant Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. She completed her B.Tech. in Computer Science and Engineering from Visveswaraya Technological University and M.Tech. in Artificial Intelligence and Machine learning from the M S Ramaiah University of Applied Sciences in 2022 and 2024 respectively. She has worked as Data Analyst, Web development intern and Software engineer Intern during her internships in the Industry. Her research interests are in the field of Signals and Image processing, Computer Vision, Biomedical imaging.

Prof. Nivetha R
Assistant Professor

Ms. Nivetha R is currently serving as an Assistant Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University.
She completed her B.E. in Computer Science and Engineering and M.E. in Data Science from the Avinashilingam Institute for Home Science and Higher Education for Women in 2021 and 2023, respectively. She has over nine months of teaching experience and 10 months of industry experience. Previously, she held academic positions at Bannari Amman Institute of Technology. In addition to her academic roles, she has undertaken various administrative responsibilities, including serving as the Industrial Collaborations Coordinator, CoE and Internship Coordinator, BoS Coordinator, and Patent Coordinator for the entire institute. During her industry experience working in Intellectual Property Rights (GOI), she provided technical and scientific assistance to the Controller of Patents and Designs by attending hearings and drafting patents. She also has experience working on the Smart Cookie Project Implementation, where she delivered over 150 presentations in colleges nationwide regarding the Smart Cookie Reward Program (AICTE). She successfully took the project live and implemented it at AICTE Headquarters in New Delhi. Her research interests lie in the fields of Deep Learning, Blockchain, and Medical Image Processing.

Prof. Sahil Pocker
Assistant Professor

Mr. Sahil Pocker is currently serving as an Assistant Professor in Computer Science and Engineering (AI & ML) at the School of Engineering, Dayananda Sagar University. He completed his B.Tech. in Mechatronics and Automation Engineeringfrom Manipal University Jaipur in 2020 and M.Tech. in Computer Science and Engineering from NIT Jamshedpur in 2023. Mr. Sahil has one year of industry experience at a cutting edge AI startup. His research interests span Natural Language Understanding, Neuromorphic Computing, Human-Computer Interaction, AI ethics and governance, Reinforcement Learning, and Neural Network Architectures.

DEPARTMENT NON TEACHING STAFF

Mrs. Nagaveni M
Office Assistant

Mrs. Nagaveni M is currently serving as an Office Assistant in the Computer Science and Engineering (AI & ML) department at Dayananda Sagar University, Bangalore, India. She completed her B. Com and in Previously, she worked as a Receptionist at K S Institute of Technology in Raghuvanahalli, Bengaluru, and as an Office Assistant at SJB Institute of Technology in Kengeri, Bengaluru. Ms. Nagaveni has extensive experience in managing Institutional tasks, particularly in the context of engineering academics.

Mr. Prashasth B G
Lab Instructor

Mr. Prashasth B G is currently serving as a Lab Instructor in the Computer Science and Engineering (AI & ML) department at Dayananda Sagar University, Bengaluru, Karnataka, India. He completed his B.E. in Computer Science and has obtained a Global Red Hat Certification. His areas of interest include Linux Server Administration and Cloud Computing.

Mrs. Vaibhavi S
Lab Instructor

Mrs. Vaibhavi S is currently working as a Lab Instructor in the department of Artificial Intelligence and Machine Learning, Dayananda Sagar University, Bengaluru. She has completed her Bachelor of Computer Applications (BCA) from Vijayanagara Sri Krishnadevaraya University, Ballari. She has 3 years of working experience in an autonomous engineering institutions, Ballari. She has the subject expertise in C programming, Python programming and Unix operating systems. She has assisted the UG students in laboratory projects with plagiarism check reports using Turnitin software. She has the ability to adapt to the new situation and learn new things to teach in quick time.

JUL-DEC 2024
Vol.2 Issue:2

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

DEPARTMENT ARTICLES

AI-Enabled Personalized Medicine and Patient-Specific Monitoring

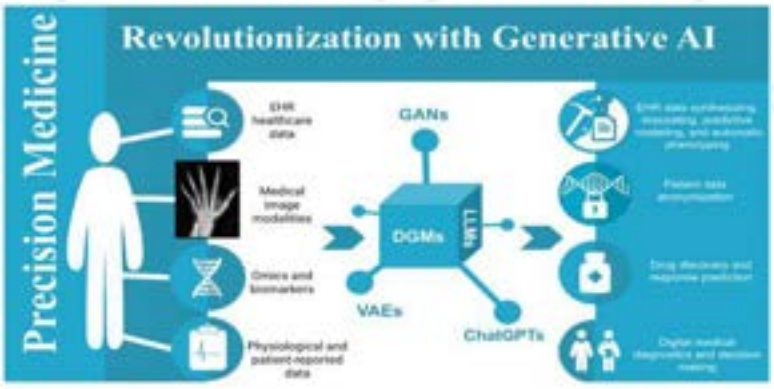
Advances in Artificial Intelligence (AI) and Machine Learning (ML) are revolutionizing the healthcare industry, particularly in diagnosing, treating, and monitoring various conditions such as cardiac diseases, strokes, and mental health disorders. Despite significant progress, the adoption of personalized or precision medicine still faces challenges, including regulatory hurdles and data privacy concerns. Overcoming these obstacles is essential to fully unlock the transformative potential of AI in healthcare, enabling more accurate diagnoses and improved patient care.

AI-powered precision medicine has the capacity to redefine healthcare by providing precise diagnoses, lowering treatment costs, and streamlining healthcare delivery. By customizing treatment plans to meet the specific needs of individual patients and facilitating proactive disease management, these AI-driven strategies can significantly enhance patient outcomes and overall quality of life. Furthermore, they play a key role in reducing global mortality and morbidity rates, contributing to a healthier population.

Remote Patient Monitoring (RPM) is emerging as a critical aspect of modern healthcare, allowing for the continuous treatment and observation of patients in remote areas through wearable devices and sensors. Data collected by these devices is stored on centralized servers and analyzed using advanced Deep Learning models, including Hierarchical Attention-based Convolutional Neural Networks (HACNN), Hybrid Convolutional Neural Networks, Long Short-Term Memory (LSTM) networks, and Attention-based Transformer architectures. These models enable precise Computer-Aided Diagnosis (CAD), effectively identifying and categorizing health conditions with high accuracy.

To safeguard patient data, the Advanced Encryption Standard (AES) algorithm is employed to encrypt sensitive information before transmission to cloud servers. This ensures that only authorized medical organizations, equipped with securely shared decryption keys, can access the data, maintaining robust security and confidentiality throughout the process.

In emergency departments, machine learning models play a vital role in providing early interventions for critically ill patients. These models are evaluated based on key performance metrics such as sensitivity, specificity, and area under the curve (AUC). They are also compared against traditional metrics like the Modified Early Warning Score (MEWS) to validate their reliability and effectiveness in ensuring timely and efficient patient care.



By integrating AI-driven personalized medicine, remote patient monitoring, and secure data management practices, healthcare systems can achieve groundbreaking advancements, ultimately improving patient outcomes and promoting global health equity.

By
Dr. Vinutha N
Associate Professor

Bridging Innovation: Industry 5.0 and Digital Twins Powered by AI

The world stands on the brink of a new industrial revolution as Industry 5.0 reshapes traditional paradigms. Unlike its predecessor, Industry 4.0, which focused primarily on automation and data exchange, Industry 5.0 emphasizes human-centric solutions, sustainability, and resilience. One of the key enablers of this transformative shift is the integration of Digital Twin technology with Artificial Intelligence (AI), a dynamic duo poised to redefine manufacturing, healthcare, urban planning, and more.

Understanding Industry 5.0

Industry 5.0 is about merging human creativity with advanced technology. While Industry 4.0 leaned heavily on cyber-physical systems and Internet of Things (IoT) devices for automation, Industry 5.0 places humans back in the loop. It aims for harmonious collaboration between people and machines, focusing on personalization, sustainability, and the well-being of society. Industries are now looking beyond efficiency and profit, prioritizing ethical technology, green solutions, and resilient systems.

Digital Twins, a foundational technology in this new wave, enhance this vision by providing a virtual replica of physical entities. These entities can range from machinery, buildings, or even entire cities, continuously updated with real-time data. When integrated with AI, Digital Twins become powerful tools for predictive analysis, optimization, and smart decision-making.

The Role of Digital Twins in Industry 5.0

Digital Twins create a virtual environment where physical objects can be monitored, simulated, and optimized. In Industry 5.0, these twins offer:

Personalization: Customized production is a hallmark of Industry 5.0. Digital Twins simulate various configurations to tailor products to individual customer needs while optimizing resource utilization.

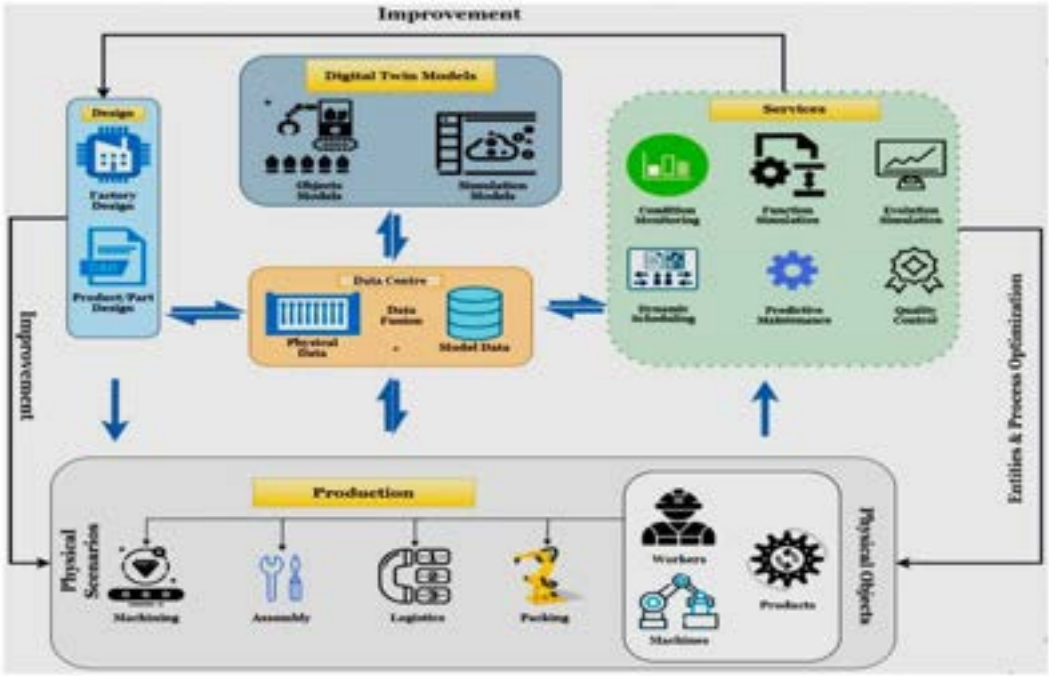
- Sustainability: Predictive maintenance powered by Digital Twins reduces waste and energy consumption, aligning with green technology goals.
- Collaborative Human-Machine Interaction: Machines can leverage real-time data from Digital Twins to interact with human operators intelligently, enhancing productivity and safety.

Bridging Innovation: Industry 5.0 and Digital Twins Powered by AI

Integrating AI with Digital Twins

Artificial Intelligence elevates the capabilities of Digital Twins by enabling.

- Predictive Analytics: Machine learning algorithms analyze historical and real-time data to predict future events. This empowers industries to anticipate failures, optimize performance, and reduce risks.
- Autonomous Systems: AI enables autonomous decision-making by learning from Digital Twin simulations. For instance, self-optimizing supply chains use real-time insights to adjust production schedules dynamically.
- Enhanced Data Insights: AI-driven insights from Digital Twins provide actionable recommendations, offering more profound understandings of complex systems.



Challenges and Opportunities

While the integration of Digital Twins and AI promises vast improvements, challenges remain:

- Data Privacy and Security: Managing real-time data flows raises concerns about cybersecurity and user privacy.
- High Implementation Costs: The initial investment in Digital Twin infrastructure and AI technologies can be substantial, although long-term benefits often outweigh these costs.
- Skills Gap: A workforce trained in AI, IoT, and Digital Twin technologies is crucial for successful adoption.

Addressing these challenges through policies, education, and investment will pave the way for widespread adoption and societal benefits.

By
Dr. Joshuva Arockia Dhanraj
Associate Professor

Robotic Dog - The new Indian Army

The Indian Army is advancing its operational capabilities by integrating robotic dogs, known as Multi-Utility Legged Equipment (MULE), into its ranks. These AI-powered quadrupeds are designed to navigate challenging terrains and support soldiers in various missions.

Design and Specifications

The MULE robotic dogs are equipped with:

- Thermal Cameras and Radars: Facilitating surveillance and reconnaissance in diverse environments, including low-light conditions.
- Payload Capacity: Able to carry up to 12 kilograms, suitable for transporting essential equipment or small arms.
- Mobility: Engineered to traverse all terrains, including snowy and rough landscapes, and capable of climbing steps up to 18 centimeters high.
- Endurance: Operational for over 10 hours after a one-hour charge, with a control range of up to 10 kilometers.

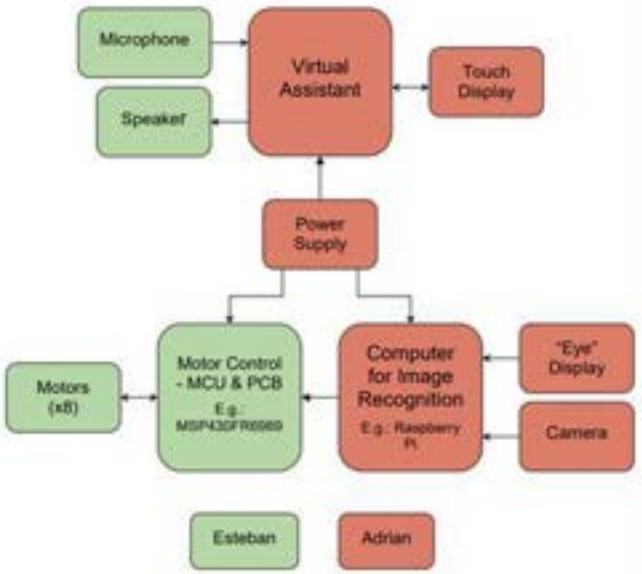


Figure 1: Hardware Block Diagram

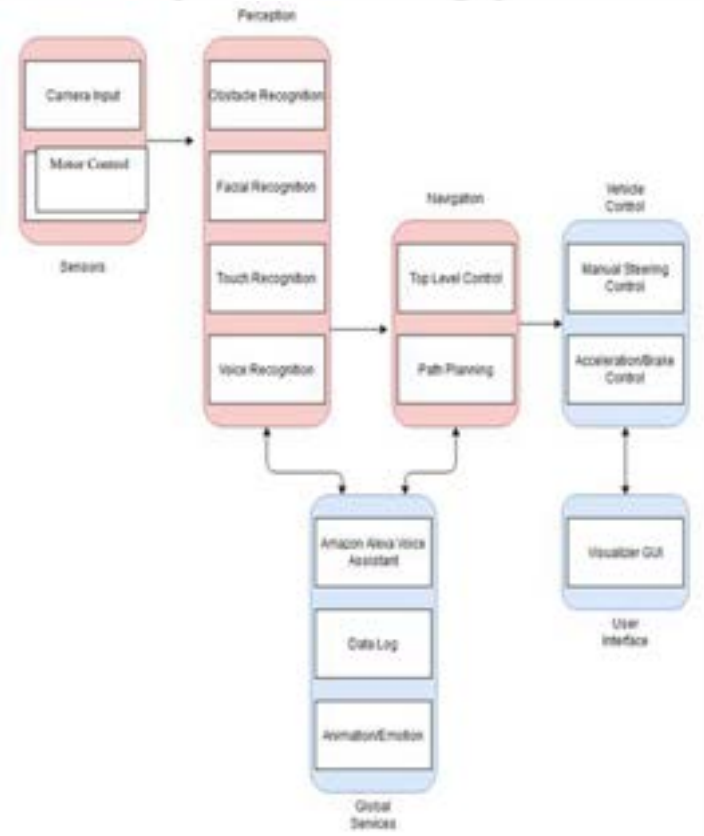


Figure 2: Software Block Diagram

Hardware and Software Components

While specific hardware details are proprietary, the MULEs incorporate advanced sensors and actuators to enable precise movement and data collection. The software suite includes autonomous navigation algorithms, computer vision capabilities, and secure communication systems, allowing for both pre-programmed missions and real-time remote control via Wi-Fi or LTE networks.

Robotic Dog – The new Indian Army

Applications in Warfare

The MULE robotic dogs are versatile assets in military operations

- Surveillance and Reconnaissance: Equipped with high-resolution cameras and sensors, they provide real-time data, enhancing situational awareness and enabling the monitoring of enemy movements from a safe distance.
- Logistical Support: Capable of transporting supplies to frontline soldiers in difficult terrains, ensuring essential resources reach critical positions without exposing human personnel to risk.
- Combat Support: When mounted with small arms, they can engage enemy positions, adding a new dimension to combat operations while keeping soldiers out of harm's way.

Advantages in the Battlefield

The integration of MULE robotic dogs offers several benefits:

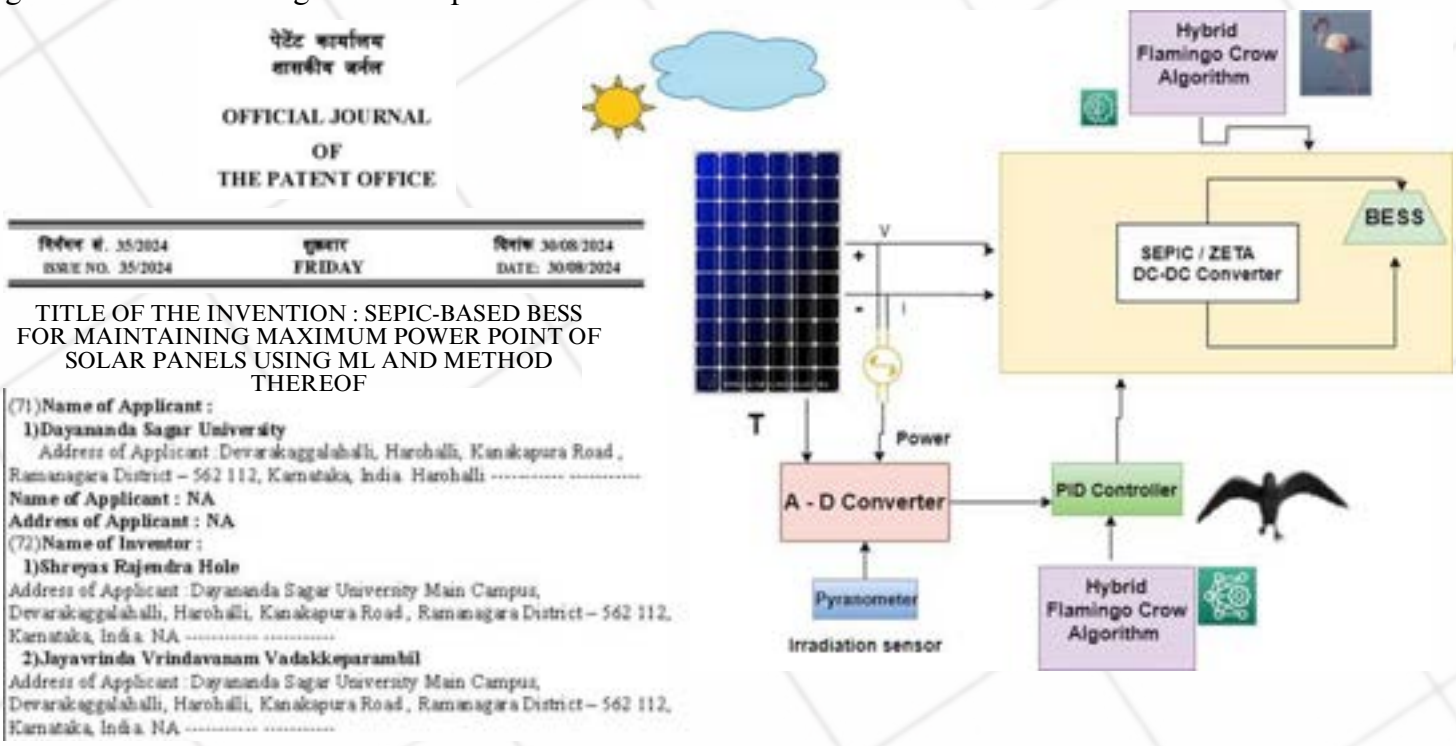
- Enhanced Safety: By undertaking high-risk tasks such as scouting and surveillance in hostile environments, they reduce the exposure of human soldiers to danger.
- Operational Efficiency: Their ability to navigate challenging terrains and operate autonomously or under remote control ensures mission success in areas where traditional methods may falter.
- Force Multiplication: Serving as extensions of the soldiers, they augment the army's capabilities, allowing for more effective and flexible responses to various operational scenarios.

The Indian Army's adoption of MULE robotic dogs signifies a significant step towards modernizing its forces, aligning with global trends in military technology, and enhancing its readiness to address contemporary security challenges.

By
Prof. Pradeep Kumar K
Assistant Professor

SEPIC-based BESS for Maintaining MPPT of Solar Panels using Flamingo Optimization Algorithm and Method thereof.

This work involves maintaining a constant output voltage irrespective of supply or load using the combination of automatic SEPIC converter and Flamingo crow optimization technique. The SEPIC converter with LPC2148 is designed to compatible load to achieve maximum power from photovoltaic modules. The Photovoltaic (PV) module feds output to DC-DC SEPIC as well as to the voltage sensing circuit in the feedback path, further comparator circuit compares the sense voltage with set point and gives the difference signal to Peripheral Interface



पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गम सं. 35/2024 ISSUE NO. 35/2024	शुक्रवार FRIDAY	दिनांक 30/08/2024 DATE: 30/08/2024

TITLE OF THE INVENTION : SEPIC-BASED BESS FOR MAINTAINING MAXIMUM POWER POINT OF SOLAR PANELS USING ML AND METHOD THEREOF

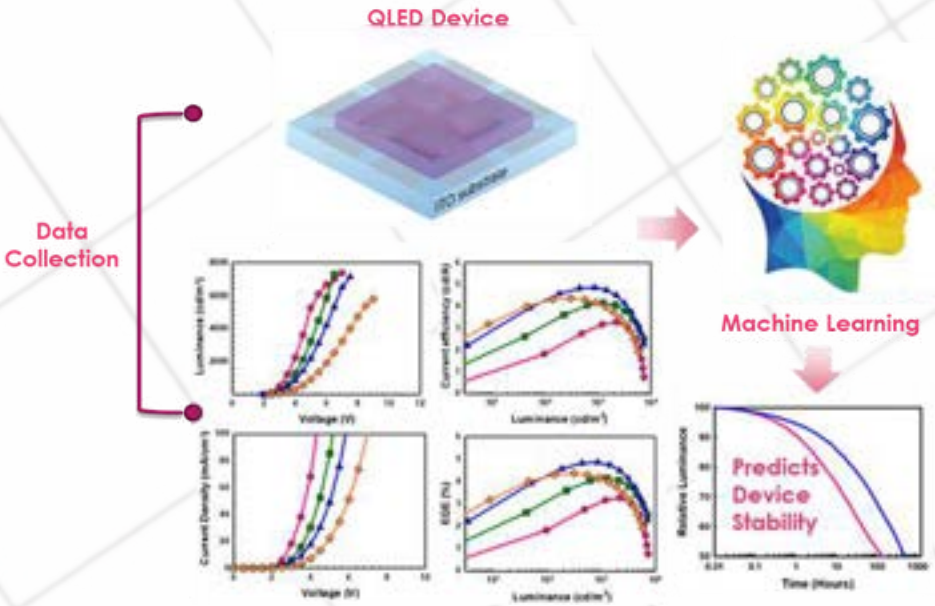
(71)**Name of Applicant :**
1)Dayananda Sagar University
Address of Applicant :Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara District – 562 112, Karnataka, India. Harohalli ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Shreyas Rajendra Hole
Address of Applicant :Dayananda Sagar University Main Campus, Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara District – 562 112, Karnataka, India. NA ---------- ----------
2)Jayavrinda Vrindavanam Vadakkeparambil
Address of Applicant :Dayananda Sagar University Main Campus, Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara District – 562 112, Karnataka, India. NA ---------- ----------

PID Controller PV module generates the Direct Current (DC) voltage corresponding to the sunlight radiation. Changes in atmospheric conditions causes variation in the sunlight falling on the PV module and hence there will be severe deviation in the output. Ideally, in normal atmospheric conditions, the PV module gives a maximum output voltage of approximately 20.6 Volt (V), but variation in sunlight radiation, causes drop in voltage from 20.6 V to 6 V. This varying voltage is applied to the dc-dc SEPIC converter, which further increases or decreases the output voltage varying between 24V to 6V respectively. The feedback circuit uses the PID Controller this sensed output with set point voltage and generates error voltage. Further the error voltage is given to the FCO. It generates pulses corresponding to the error signal using Pulse Width Modulation (PWM). Finally, these pulses control the switching operations of DC-DC SEPIC converter and thus maintain output voltage constant by varying the width of PWM pulses. This constant voltage can be acquired for several applications such as the dc load, for battery charging, or for DC/AC grid.

By
Dr. Shreyas Rajendra Hole
Assistant Professor

Machine Learning Assisted Stability Analysis of Next-Generation Display Devices

Quantum Dot Light-Emitting Diodes (QD-LEDs) represent a transformative advancement in display and lighting technologies, offering superior color purity, high brightness, and energy efficiency. However, the long-term stability of QD-LEDs remains a critical challenge, limiting their commercialization potential. Recent research has highlighted the potential of machine learning (ML) in addressing this issue by providing advanced tools for stability analysis and optimization. Machine learning models can process large datasets derived from QD-LED experiments, including material properties, device architectures, and operational conditions. By leveraging these datasets, ML algorithms such as regression models, neural networks, and ensemble learning techniques can identify key factors affecting stability. These models enable the prediction of degradation patterns and the optimization of material combinations to enhance device longevity. One notable application is in the identification of correlations between environmental factors (e.g., humidity, temperature) and device performance. By training ML models on historical performance data, researchers can design QD-LEDs that are more resilient to external stressors. Additionally, reinforcement learning methods can be used to iteratively optimize manufacturing processes, ensuring higher stability and efficiency. The integration of machine learning into QD-LED research not only accelerates the development cycle but also opens pathways to more durable and commercially viable devices, paving the way for next-generation lighting and display solutions.



By
Dr. Mude Nagarjuna Naik
Assistant Professor

The Artificial General Intelligence (AGI)

Artificial general intelligence (AGI) represents a form of artificial intelligence that can perform any intellectual task a human can do. Unlike narrow AI, which is designed for specific tasks, AGI aims for a more universal application of intelligence, encompassing a wide range of activities without human intervention.

Defining AGI :

AGI stands out because of its potential to replicate human cognitive abilities. Here are its key attributes:

- **Abstract Thinking:** Understanding and solving complex problems using abstract ideas.
- **Background Knowledge:** Leveraging vast amounts of data and contextual information.
- **Common Sense:** Applying practical judgment to real-world scenarios.
- **Cause and Effect Understanding:** Analyzing relationships between events.
- **Transfer Learning:** Adapting knowledge from one domain to another.

Current State of AGI :

While AGI remains a theoretical concept, the technology shows promise. Narrow AI examples like IBM Watson and self-driving cars demonstrate specialized intelligence but lack the comprehensive adaptability of AGI.

Some advancements that hint at AGI capabilities include:

- **Language Models:** Generative models like GPT-4 can produce human-like text but still lack genuine understanding.
- **Creative AI:** Music or art-generating AIs mimic human creativity within set parameters.
- **Decision-Making Systems:** Expert systems analyze and predict outcomes but require predefined rules.

The Artificial General Intelligence (AGI)

Challenges and Ethical Concerns

Developing AGI involves overcoming significant challenges:

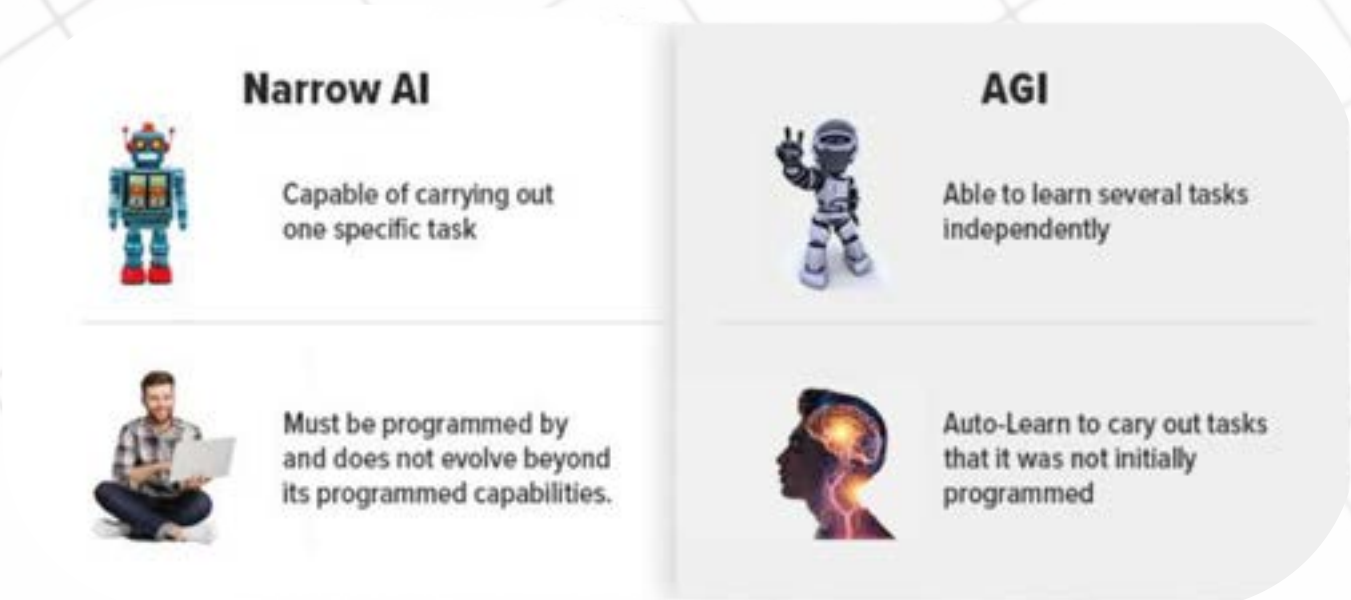
- **Technical Barriers:** Creating systems with human-like adaptability.
- **Ethical Implications:** Managing AGI's potential misuse and ensuring alignment with human values.
- **Safety Concerns:** Avoiding unintended consequences of autonomous decision-making.

Future of AGI

The path to AGI involves exploring diverse approaches, including:

- **Neuromorphic Computing:** Mimicking the human brain's structure and processes.
- **Hybrid Models:** Combining neural networks with symbolic reasoning.
- **Collaborative AI:** Systems working alongside humans to augment capabilities.

Although predictions vary, experts like Ray Kurzweil foresee AGI emergence within a few decades. However, realizing this vision requires addressing both technical and societal challenges to ensure AGI benefits humanity without unintended consequences.



BY
Amitabh Thakur
(ENG23AM0215)

New Careers Created by AI: Myths and Opportunities for the Next Generation

Artificial Intelligence (AI) is not just reshaping industries; it's creating entirely new career paths, offering young professionals a chance to thrive in an ever-evolving job market. Roles like AI Ethics Specialists are emerging to ensure algorithms remain fair, unbiased, and socially responsible, addressing the challenges of bias and transparency. Similarly, Prompt Engineers, a role born out of AI models like ChatGPT, specialize in crafting inputs to maximize the effectiveness of these tools, blending creativity and technical expertise.

Contrary to popular belief, AI is not eliminating jobs—it's transforming them. While automation might reduce certain repetitive tasks, it is creating jobs that demand creativity, problem-solving, and adaptability. For instance, Data Curators are in demand to manage and prepare datasets for AI training, a role unheard of a decade ago. Likewise, AI-Driven Designers use tools like DALL·E to generate innovative content for marketing, entertainment, and more. Robotics is also seeing a transformation, with Robotics Engineers developing intelligent systems that collaborate seamlessly with humans.

The rise of these AI-driven careers offers significant benefits for upcoming generations. It encourages the development of valuable skills, such as critical thinking and adaptability, while presenting lucrative opportunities in tech and creative industries. By embracing AI, young professionals can stay ahead of the curve and actively shape the future. Far from replacing humans, AI is empowering them to reach new heights and create solutions that were once unimaginable.

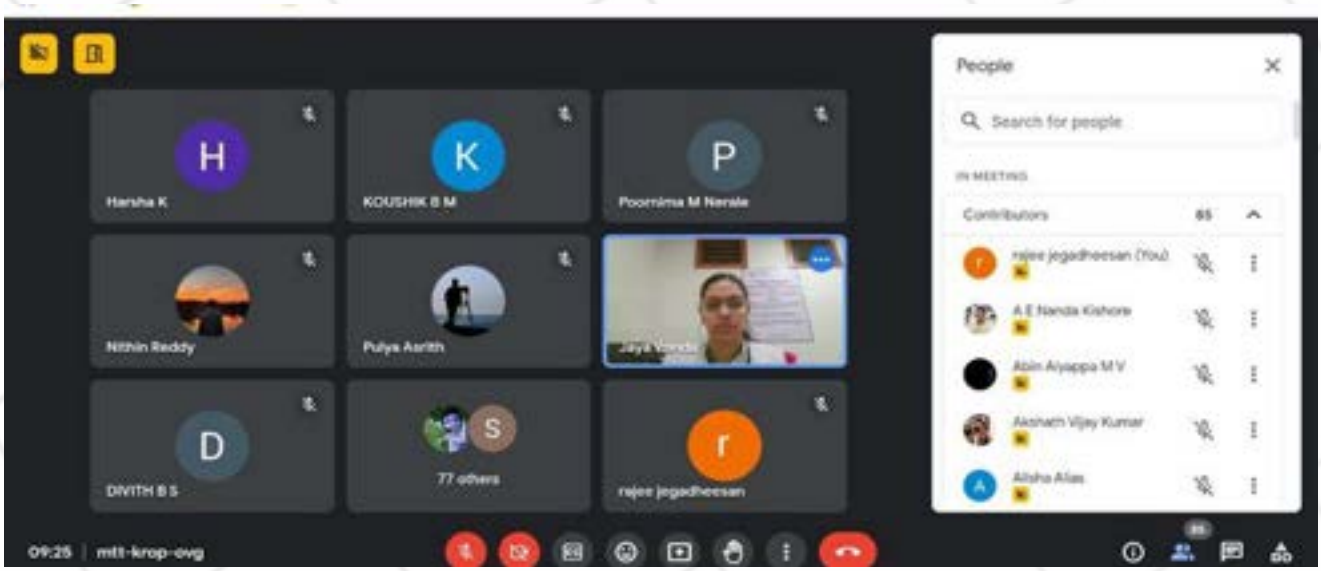
BY
Sneha Suman (ENG23AM0196)

JUL-DEC 2024
Vol.2 Issue:2

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

DEPARTMENT ACTIVITIES

Five-Day Value-added Course on "Machine LearningModels and its Mathematical Framework" for 5th Semester students



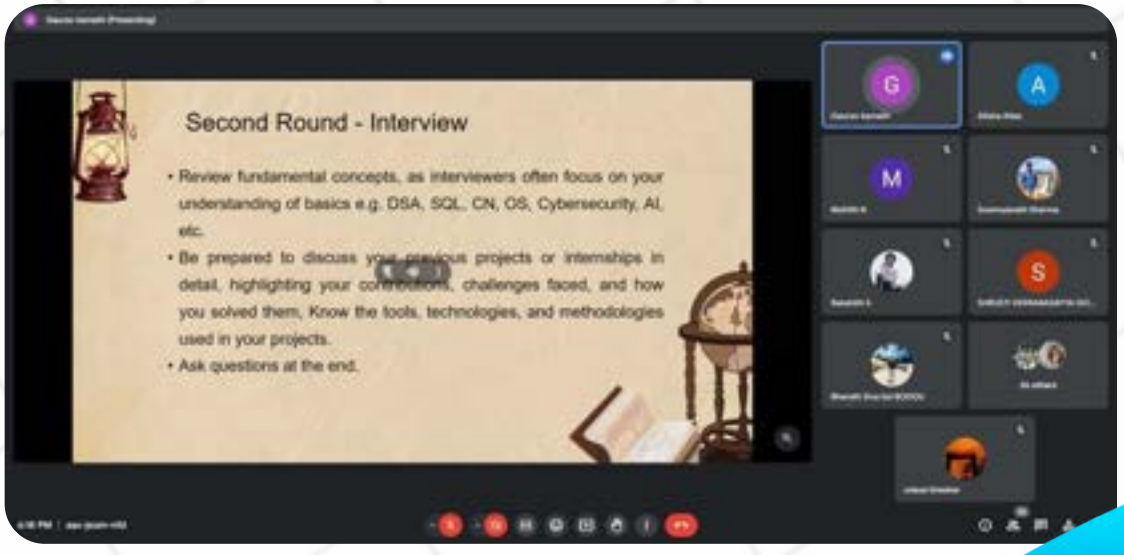
The five-day value-added course "Machine Learning Models and its Mathematical Framework" for 5th-semester CSE (AI&ML) students began on July 16–23, 2024, via online mode (Microsoft Teams). Dr. Jayavrinda Vrindavanam discussed machine learning ideas and trends on the first day. The following seminars were led by specialists on fundamental and advanced topics. Prof. Srimanta Maji taught basic math, while Dr. Rangaraj explained the Markov Model and its applications. The extensive coverage gave them a good foundation in machine learning and mathematics. Sessions over the next few days taught students about machine learning. Dr. Durbadal Chattaraj, Dr. Vegi Fernando A, and Prof. Subhash Mondal thought probability theory, matrix decomposition, and data preparation ML libraries. Dr. Mude Nagarjuna Naik and Dr. Shreyas Rajendra Hole demonstrated regression analysis and model development. Dr. Vinutha N, Dr. Sumit Kumar Yadav, and Prof. Pavithra A led SVM, model assessment, and clustering sessions. Prof. Pradeep Kumar, Prof. Uday Bhaskar, and Prof. Sharanabasappa Tadkal concluded the course by discussing machine learning in IoT, NLP, and cybersecurity on the final day. The value-added course "Machine Learning Models and its Mathematical Framework" received daily Google Forms feedback, proving that it accomplished its goals and illuminated machine learning mathematics. The course taught students leading machine learning techniques and their applications in IoT, cybersecurity, and NLP.

Faculty Coordinators

Dr. Monika G, Assistant Professor, CSE (AIML), SoE, DSU ,
Dr. Shreyas Rajendra, Assistant Professor, CSE(AIML), SoE, DSU ,
Prof. Ayan John, Assistant Professor, CSE (AIML), SoE, DSU

Cracking the EY GDS Campus Drive: Preparation Tips for Success

The Department of Computer Science and Engineering (Artificial Intelligence & Machine Learning) at Dayananda Sagar University hosted an online session on 11th August 2024, focusing on preparation for the EY GDS placement drive. Targeted at registered students and other interested 7th-semester students, the session featured Mr. Gaurav Kamath, an AI&ML alumnus from the 2020-24 batch, who shared his experiences on succeeding in the EY GDS Campus Drive.

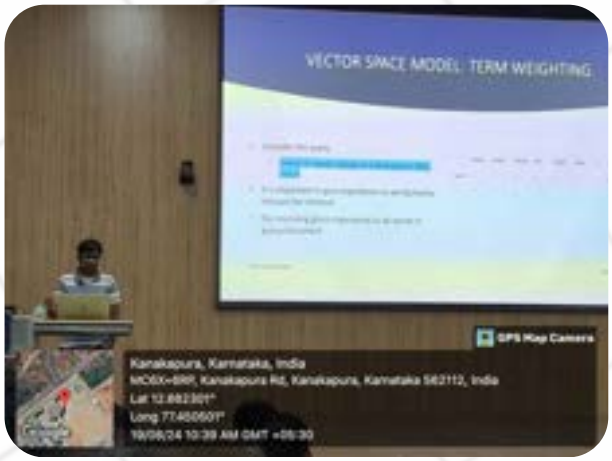


Cracking the EY GDS Campus Drive: Preparation Tips for Success

Mr. Kamath's presentation, titled "Cracking the EY GDS Campus Drive: Preparation Tips for Success," covered essential aspects of the job description, including Data & Analytics, Oracle, and SAP, offering detailed strategies for each section. The session concluded with an interactive Q&A, where Mr. Kamath provided practical advice, followed by a vote of thanks. The event was highly appreciated by participants, and similar sessions are planned to support students in future placement preparations.

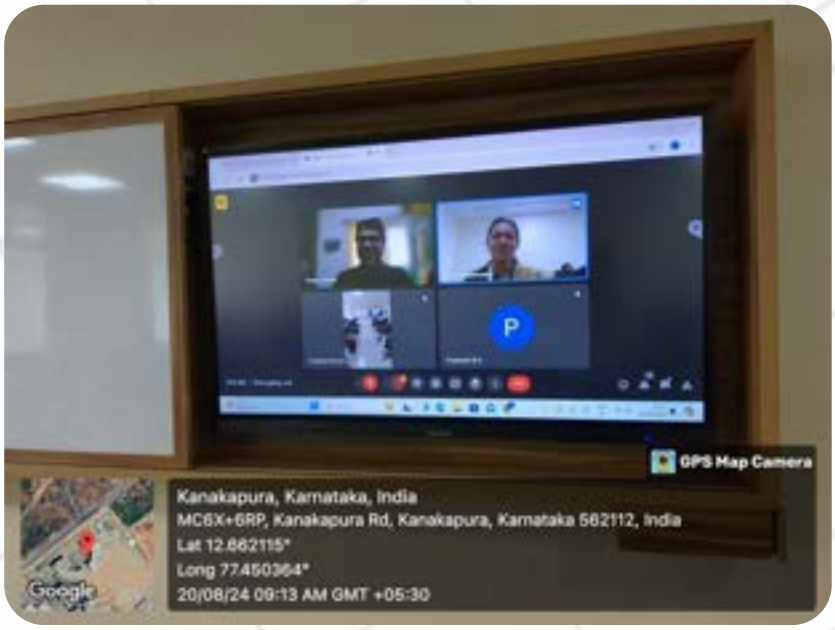
Faculty Coordinators
Prof. Udayabhaskara N, Assistant Professor, AI&ML

The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering"

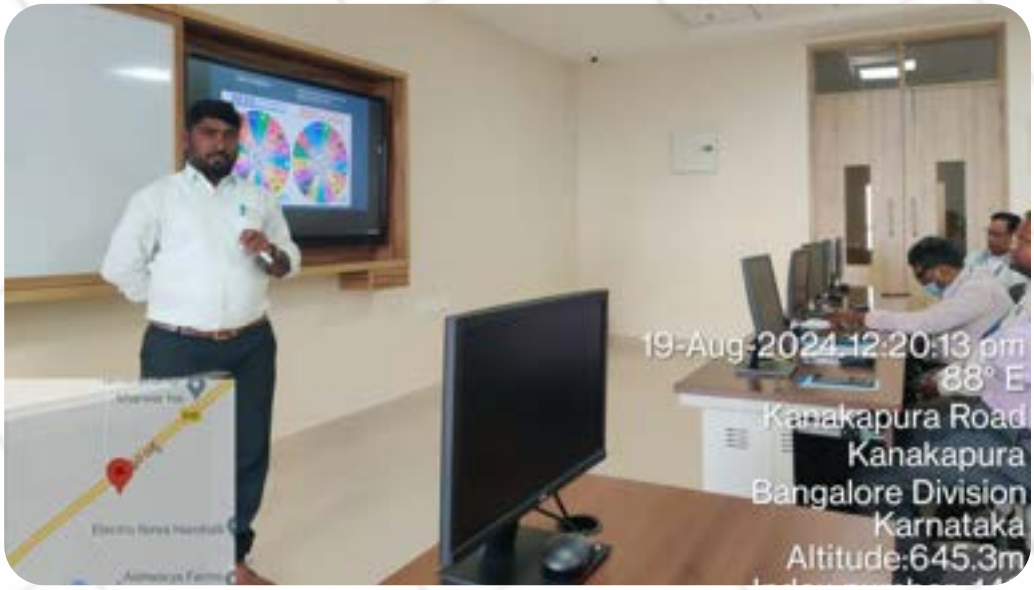


The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering," organized by the Department of CSE (AI & ML), began with an inaugural session hosted by Dr. A. Vegi Fernando, Associate Professor. Dr. Rudra Murthy V, Research Scientist at IBM Research, India, and Dr. Karthikeyan Saminathan, Director of AI & Software Development at MINE, were the distinguished guests. The session was inaugurated by Dr. Udaya Kumar Reddy, Dean, SOE, with a welcome address by Dr. Jayavrinda Vrindavanam, Chairperson, and introductions by Dr. Monika Goyal and Dr. Shreyas Rajendra Hole. Dr. Naveen Babu, Associate Dean, SOE, also felicitated the gathering. Dr. Rudra Murthy's session focused on Information Retrieval, covering the basics of indexing, querying, and document retrieval, along with strategies for using academic databases like Google Scholar, PubMed, and IEEE Xplore. He emphasized the importance of precise searches and integrating retrieved information into course materials. Dr. Karthikeyan Saminathan's sessions introduced Generative AI, exploring Transformer Architecture, Prompt Engineering, and Hyperparameter tuning, followed by a hands-on session. The sessions highlighted the importance of Generative AI in various domains and provided strategies for designing effective prompts and responsible AI practices. The day concluded with a vote of thanks by Dr. Vinutha.

The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering"



On August 20, 2024, the second day of the FDP began with an online session at 9:00 AM. The session featured Mr. Pankaj Bande, Director of Generative AI Practice at Infinity Learn, who was warmly welcomed by Dr. Jayavrinda Vrindavanam V. The session covered NanoGPT's working process, starting with data preparation, where input text is tokenized and batched. The model uses the Transformer architecture, including embedding layers, positional encoding, and transformer blocks with multi-head self-attention. The training process involves predicting the next token in a sequence, using backpropagation and optimization, and refining the model over multiple iterations.



The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering"

Day 3 of the Faculty Development Program on "Generative AI and Prompt Engineering" led by Mr. Sai Sathish was highly interactive and hands-on. The session covered interfacing with Large Language Models (LLMs), Parameter-Efficient Fine-Tuning (PEFT), Retrieval-Augmented Generation (RAG), and the use of vector databases. Participants engaged in practical exercises using Google Colab, gaining insights into fine-tuning LLMs and working with CNNs and Hugging Face models. The day concluded with a Q&A session, and Mr. Sathish was honored with a memento and certificates. He also gifted his book on Cyber Security to all participants.

The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering"

The 4th day of the FDP, featured insightful sessions led by experts in the field, beginning with a warm welcome by Dr. Vinutha ma'am and an introduction to Dr. Natarajan Venkateswaran, who delivered a session on "Generative AI: Prompts and Development." Dr. Natarajan discussed the impact of ChatGPT in project management, applications of generative AI, and the importance of structured prompts in guiding large language models (LLMs). He covered prompting concepts, reusable prompt templates, and best practices for effective prompt engineering. The second session, led by Dr. Hanumanth Sastry Sistla, explored the Retrieval-Augmented Generation (RAG) architecture, Low-Rank Adaptation (LORA), and the integration of LLMs using Langchain. He emphasized RAG as a managed service, highlighting its scalability, flexibility, and operational efficiency, while also discussing AI strategies for business transformation. The final session, conducted by Dr. Gopal Das C M, focused on positive mental health, well-being, stress management, and the biological mechanisms underlying stress, providing participants with practical insights into maintaining mental health. Each session concluded with the presentation of certificates and mementos to the respective speakers in recognition of their valuable contributions.

The Five-Day Faculty Development Program (FDP) on "Generative AI and Prompt Engineering"

On August 23, 2024, Mr. Prasad, Director of Partner Solutions, delivered an insightful session on AI's role in reshaping process automation during an FDP. He discussed how AI enhances automation by enabling cognitive decision-making, predicting outcomes, and reducing human error. He emphasized seamless AI integration into automated systems, highlighting data flow, interoperability, and human-AI collaboration. Mr. Prasad also explored improving Large Language Models (LLMs) with Retrieval-Augmented Generation (RAGs) for better performance and discussed the importance of evaluating LLMs for specific business tasks, considering accuracy, relevance, and response time.

Faculty Coordinators

Dr. Vinutha N, Associate Professor, CSE (AI&ML), SoE, DSU,
Dr. Monika G, Assistant Professor, CSE (AI&ML), SoE, DSU ,
Dr. Shreyas Rajendra, Assistant Professor, CSE(AI&ML), SoE, DSU ,
Prof. Pradeep Kumar K, Assistant Professor, CSE (AI&ML), SoE, DSU,
Prof. Udayabhaskar N, Assistant Professor, CSE (AI&ML), SoE, DSU

Teacher's Day 2024 Celebration- Felicitation Program

On September 5th, Teacher's Day 2024, the Department of AI-ML honored the dedication and contributions of educators through a heartwarming celebration. Hosts Ritvik and Neha welcomed the audience, setting a cheerful tone for the day. The event began with an inspiring speech by Dr. Jayavrinda Vrindavanam V, Chairperson, followed by recognition of outstanding academic achievements. It started off with the Dean of Academics, Dr. Ramesh R Galigekere and Associate Dean, Dr. Naveen Babu delivering speech on teachers' day. Faculty members, including Dr. Joshuva Arockia Dhanraj, Dr. Monika Goyal, Dr. Shreyas Rajendra Hole, Prof. Subhash Mondal, Prof. Pradeep Kumar K, Prof. Sriramkumar R, Prof. Jeevaraj R, shared insights into their recent research and publications. Each educator received applause and a memento as a token of appreciation.

Teacher's Day 2024 Celebration- Felicitation Program

The event's appeal was enhanced by 5th Semester students, Deekshitha, and Swathi's mesmerizing song performance. In a special gesture, the students gifted their teachers, expressing gratitude for their relentless efforts. The celebration concluded with a cake-cutting ceremony, and heartfelt thanks from the hosts, highlighting the importance of appreciating teachers' day.

ORGANISED BY
V SEM STUDENTS

Industrial Visit to UR Rao Satellite Centre (URSC), Bengaluru

The 5th-semester AIML students of Dayananda Sagar University had the opportunity to visit the prestigious UR Rao Satellite Centre (URSC), Bengaluru, which provided them with valuable insights into India's space technology.

The visit began with Mrs. Umavathi madam introduced about Dr. Udupi Ramachandra Rao, the Father of Satellite Technology in India, and his contributions, including the Aryabhata satellite. Students were then shown the Clean Room, where satellite components are meticulously assembled and tested, ensuring optimal performance. They learned about India's launch vehicles, PSLV and GSLV, and satellite orbits like LEO, MEO, and GEO.

Industrial Visit to UR Rao Satellite Centre (URSC), Bengaluru

Key missions like Chandrayaan-3, Aditya L1, and future missions such as Chandrayaan-4 were discussed. The session also introduced advanced concepts like reusable launch vehicles (RLV) and the NASA-ISRO collaboration on the NISAR satellite. The visit concluded with an overview of space docking technology, essential for future missions.
This industrial visit was an enriching experience, highlighting India's impressive advancements in space exploration and satellite technology.

Batch	faculty in charge	Student Visited-5th Sem AIML	Date & Time
1	Dr. Mude Nagarjuna Naik Prof. Pradeep Kumar K	48 students	20/09/2024 7.40AM to 2.30PM
2	Dr. Vegi Fernando A Dr. Monika Goyal	50 students	20/09/2024 8:40 AM to 4:00 PM

Appreciation & Felicitating with Trophies for 4th, 6th & 8th semester Toppers.

The Department of Computer Science and Engineering (Artificial Intelligence & Machine Learning) organized a special event to honor the top-performing students of the 4th, 6th & 8th semester, The Head of the Department congratulated them for their outstanding achievements and presented them with trophies, encouraging all students to strive for excellence in their academic journey.

"Engineer the Future" organized by Yantrove Club in association with IEEE Robotics & Automation Society, IEEE Computational & Intelligence Society, SBC, DSU.

The Yantrove Club, under the Department of Computer Science and Engineering (AI & ML), hosted an ideathon titled "Engineer the Future" on September 18, 2024, to celebrate Engineers' Day. The event gathered 19 teams to propose innovative solutions to four key themes: Ethics in AI, Engineering for Multi-Planetary Species, Space Debris Mitigation, and Education Technology. After a welcome address by Chairperson Dr. Jayavrinda Vrindavanam, participants had two and a half hours to develop their ideas.

"Engineer the Future" organized by Yantrove Club in association with IEEE Robotics & Automation Society, IEEE Computational & Intelligence Society, SBC, DSU.

. The competition featured two evaluation rounds, with five teams advancing to the final stage. Judges assessed the teams based on innovation, functionality, impact, scalability, and presentation. The top three teams were awarded prizes, with the first-place team receiving Rs. 1000. The event concluded with a speech by Prof. Subhash Mondal, who commended the participants for their creativity and problem-solving abilities, encouraging them to continue innovating in their engineering journeys.

Faculty Coordinators

Prof. Subhash Mondal , Faculty advisor, IEEE RAS & CIS SBC DSU

Prof. Mitha Guru, Assistant Prof., Dept. of CSE(AI&ML)

Training Session on Corporate Ethics

On September 26, 2024, a placement training session was organized by the Training & Placement Department of Dayananda Sagar University, targeting 5th-semester students. Led by organizers Vijay Kumar S, Roopa Priya, and Dr. Vinutha N, with Dr. Jayavrinda Vrindavanam as the convener, the session focused on Corporate Ethics, Leadership Qualities, and Interview Preparation. Participants were introduced to the significance of corporate ethics, emphasizing adherence to ethical principles in professional settings to build a trustworthy reputation. Leadership qualities were highlighted, particularly the importance of open communication, transparency, and integrity in fostering trust and motivating teams.

The session also included practical guidance on interview preparation, where students were taught how to craft impactful personal introductions and align their strengths with job requirements. Interactive activities aimed at enhancing team management skills were conducted, promoting effective communication, collaboration, and decision-making. These exercises not only improved participants' problem-solving abilities but also instilled a strong sense of team spirit. Overall, the training session provided a comprehensive understanding of corporate ethics and leadership while equipping students with critical skills for professional success.

Faculty Coordinators

Dr.Vinutha N, Associate Prof., Dept. of CSE(AI&ML)

Pre-Placement Talk on Edgeverve

On October 24, 2024, EdgeVerve Systems, a subsidiary of Infosys, conducted an inspiring Pre-Placement Talk at Dayananda Sagar University's Harohalli campus. The session marked the commencement of the 2026 batch placement drive, running from 11:30 am to 2:00 pm. The EdgeVerve team, comprising Mr. Rajeshwar Rao (Head of Talent Acquisition), Mr. Karthik V R (Business Manager, Learning), and Mr. Arun Kumar (Talent Acquisition), provided an in-depth overview of the company's vision, innovative projects, and career opportunities. They also outlined their recruitment process for internships and full-time roles, creating enthusiasm among the attendees.

The event drew over 1,000 5th-semester students, including 50+ from CSE (AI&ML), creating an atmosphere of curiosity and ambition. Through interactive discussions and a Q&A session, the speakers shared valuable insights into EdgeVerve's culture and career opportunities. Organized by Mr. Vijay Kumar S., Ms. Roopa Priya, and Dr. Vinutha N., under Dr. Jayavrinda Vrindavanam's guidance, the session was a seamless success, setting a benchmark for the placement season and showcasing DSU's commitment to producing industry-ready professionals.

Faculty Coordinators

Dr.Vinutha N, Associate Prof., Dept. of CSE(AI&ML)

Unlocking the Power of Digital Electronics: Mastering Logic Design" - Value Added Course

The Department of CSE (AI&ML) conducted the three-day value-added course "Unlocking the Power of Digital Electronics: Mastering Logic Design," held from September 26-28, 2024, offered third-semester AI & ML students a comprehensive introduction to digital circuit fundamentals. Coordinated by Dr. Kavya Sai Yaddanapudi, Dr. Mude Nagarjuna Naik, and Prof. Yaso Omkari, the workshop combined theoretical learning with hands-on practical sessions.

On the first day, participants were introduced to foundational topics such as basic logic gates (AND, OR, NAND, EX-OR), Karnaugh maps, multiplexers, de-multiplexers, and comparators, with practical demonstrations of half-adder and full-adder circuits. The following day included hands-on lab sessions in labs, allowing students to implement logic gates and design half-adders, full-adders, multiplexers, and de-multiplexers, reinforcing their theoretical understanding through practical applications. On the final day, participants continued practical implementations in labs focusing on critical digital components. This immersive experience solidified their understanding of digital circuit design, emphasizing the importance of digital logic in modern electronic systems. The course provided students with essential knowledge applicable to real-world digital electronics applications.

Faculty Coordinators

Dr. Kavya Sai Yaddanapudi Assistant Prof., Dept. of CSE(AI&ML)
Dr. Mude Nagarjuna Naik, Assistant Prof., Dept. of CSE(AI&ML)
Prof. Yaso Omkari, Assistant Prof., Dept. of CSE(AI&ML)

Expert-Talk- Bulding Smart Models: UtilizingDatasets to Optimize Machine Learning Outcomes

On October 8, 2024, the Department of Computer Science & Engineering (AI & ML) at Dayananda Sagar University hosted an expert talk titled "Building Smart Models: Utilizing Datasets to Optimize Machine Learning Outcomes." Led by Mr. Vinothkumar Kolluru, a Senior Data Scientist at Apple, USA, the session was attended by fifth-semester students (Sections A, B, and C) and faculty members. Mr. Vinothkumar provided a detailed overview of the essential steps for handling and optimizing datasets to create effective machine learning models. Key topics included data preprocessing, exploratory data analysis, feature engineering, and model selection, with practical insights into dealing with missing data, data normalization, and feature extraction. His clear, structured approach kept students highly engaged. The session concluded with a vote of thanks by Prof. Sriramkumar R, who acknowledged Mr. Vinothkumar's impactful contribution. The talk offered valuable learning and practical applications, helping students build a strong foundation in data science and machine learning.

Faculty Coordinators

Dr. Shreyas Rajendra Hole Assistant Prof., Dept. of CSE(AI&ML)

Prof. Sriramkumar R, Assistant Prof., Dept. of CSE(AI&ML)

Qualified for International Rover challenge (IRC)-2025

With great pleasure, the AIML Dept, Dayananda Sagar University announces the development of first cost effective Rover by the students of SoE, Dayananda Sagar University to support the real-world applications. The Rover has been designed to perform 3 different types of applications; a) weight lifting to 10kg, b) Soil testing, and c) Fire extinguisher.

The Rover project has been successfully demonstrated by a team of 12 students: 7 students from AIML (Utpal Kumar, Deekshitha M, R Sujay, Akshat Agarwal, Pushkar Pallav, K Vamsi Krishna & Rohan Jaiswal) 2 students from ECE (Renuka Anil Sutar & Rohan Susarla) and 3 students from AE (Tarita Shetty, Yogesh V and Mithun) under the guidance of the following professors: -

Dr. Gopal Joshi-CSST

Prof. Pradeep Kumar -Assistant Professors, Dept. of CSE (AI&ML)

Dr. Jayavrinda Vrindavanam- Chairperson and Professors, Dept. of CSE(AI&ML)

Dr. Naveen Babu-Professor, Dept. of CSE (AI&ML) and Associate Dean, SoE, DSU

Dr. Bahubhali - Professor, Dept of CSE (AI&ML)

Prof. Kamal Babu- Asst. Professor-Dept. of ME, SoE

The project was funded by the Centre for Space Science and Technology (CSST). As part of the requirements, the students have successfully completed the Rover Project and cleared the screening round of international Rover challenge, which will be taking place at BITS GOA, during Jan 2025.

Exploring Supercomputing Excellence at IISc

Dr. Bahubali Shiragapur, Dr. Hanumanth Sastry, and **Dr. Rangraj** recently visited IISc to explore its cutting-edge computational resources and supercomputing technologies. The team reviewed the CDAC Param Pravega Supercomputer, India's largest academic supercomputing facility under the National Supercomputing Mission, which supports high-performance computing for interdisciplinary projects in computational biology, climate modeling, and quantum computing. They also explored NVIDIA's advanced GPU-powered infrastructure, including DGX systems from Frontier and ATOS, designed to facilitate AI, deep learning, and large-scale neural network training for both academic and industrial research.

During the visit, Dr. Yoginder Negi and his team provided a comprehensive briefing on the operational aspects of these advanced facilities. Key discussions revolved around optimization strategies for GPU and CPU clusters and potential research collaborations in CUDA, parallel programming, VM usage, and AI applications. The visit showcased IISc's leadership in supercomputing and laid the groundwork for future collaborative research opportunities.

An Expert Talk on "Navigating the Future: Tips for Interviews, Higher Studies, and Entrepreneurship

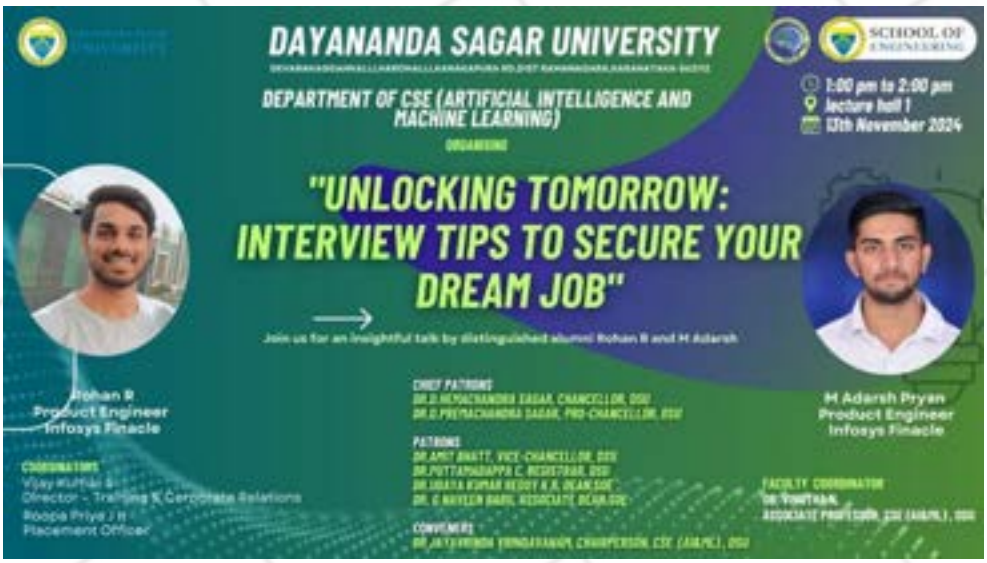
On November 9th, 2024, the Department of CSE (AI&ML) at Dayananda Sagar University organized an expert talk on "Navigating the Future: Tips for Interviews, Higher Studies, and Entrepreneurship" for the 7th Semester CSE (AI&ML) students. The session started by welcoming the resource Person Dr. Bahubali Shiragapur, professor in CSE (AI&ML).

Dr. Bahubali shared an enriching session on higher education and career success strategies. Dr. Bahubali emphasized a structured approach to pursuing higher studies, advising students on identifying personal interests, exploring research-oriented programs, preparing for exams, seeking scholarships, and networking with alumni. He also highlighted the importance of internships and research to build practical experience and enhance professional networks. For career preparation, Dr. Bahubali shared strategies for excelling in interviews, including researching companies, practicing responses, showcasing problem-solving abilities, and demonstrating essential soft skills. He further inspired students to consider entrepreneurial paths, encouraging innovation and the pursuit of ventures beyond traditional roles. Dr. Bahubali insightful guidance left a positive impact, equipping students with valuable tools for academic and career advancement.

Faculty Coordinators

Dr.Vinutha N, Associate Prof., Dept. of CSE(AI&ML)

An Expert Talk on "Unlocking Tomorrow: Interviews Tips to Secure your Dream Job



On November 13th, 2024, the Department of CSE (AI&ML) at Dayananda Sagar University organized an expert talk on "Unlocking Tomorrow: Interviews Tips to Secure your Dream Job" for the 5th Semester CSE (AI&ML) students. Dr. Vinutha N, Associate Professor, CSE (AI & ML) department welcomed alumni Mr. Rohan R and Mr. M Adarsh Pryan, Product Engineers at Infosys Finacle, to deliver a session on the interview process and career preparation.

They discussed aptitude, problem-solving skills, coding rounds, interview strategies, and post-interview training. Key insights included practicing on platforms like HackerRank and CodeChef and presenting approaches clearly during coding assessments. Technical rounds focus on data structures, DBMS, and problem-solving, with common questions on linked lists, SQL queries, and Unix commands. Students were advised to understand their projects thoroughly and expect project-related queries.

Post-interview, candidates undergo six months of training in foundational topics like C programming, backend development, and dynamic programming, supplemented by Udemy courses and regular assessments. Emphasis was placed on choosing a specific career path like AI or Data Science and building practical skills over certifications. Real-world projects and hands-on experience are prioritized for placements.

Faculty Coordinators

Dr.Vinutha N, Associate Prof.

Dept. of CSE(AI&ML)

Outreach Activity - Art of Living International Center

The Department of CSE (AI&ML) organized a two-day outreach activity to the "Art of Living International Center" Bangalore on November 11-12, 2024, providing students and faculty with an enriching experience focused on holistic practices, mindfulness, and cultural values. The event included a Bhastrika Pranayama session and a 20-minute guided meditation, promoting stress relief and mindfulness. Participants also visited the Gaushala, gaining insights into ethical animal care and rural sustainability, and the Gurukul, where they explored traditional learning methodologies and ancient Indian spiritual practices.

An introductory session on Art of Living's values was followed by guided meditation, emphasizing personal development and self-reflection. Participants also enjoyed a Satvik lunch, experiencing nutritious, balanced meals aligned with the wellness theme of the event. Faculty members, including Dr. Bahubali and team on the first day and Dr. Vinutha and team on the second day, played a key role in ensuring the event's success by guiding and supporting students throughout.

The visit fostered a sense of connection with nature, cultural heritage, and wellness, contributing significantly to personal growth. Students appreciated the break from academics and the opportunity to engage in experiential learning. Special thanks were extended to the HoD and the Art of Living Center for their support and hospitality.

Faculty Coordinators

Dr. Shreyas Rajendra Hole Assistant Prof. Dept. of CSE(AI&ML)

RoboCraft 2024 – A Journey Into Robotics

Dayananda Sagar University's Department of Computer Science Engineering (AI & ML), in collaboration with the Yantrove Club, organized RoboCraft, a two-day robotics workshop on October 7th and 8th, 2024. This event aimed to ignite students' passion for robotics, blending theoretical insights with practical application under the mentorship of seasoned professionals and enthusiastic student leaders.

Day 1: Foundations of Innovation

The first day kicked off with an inspiring inaugural session featuring prominent speakers:

Dr. Jayavrinda Vrindavanam, who discussed robotics' transformative role across industries.

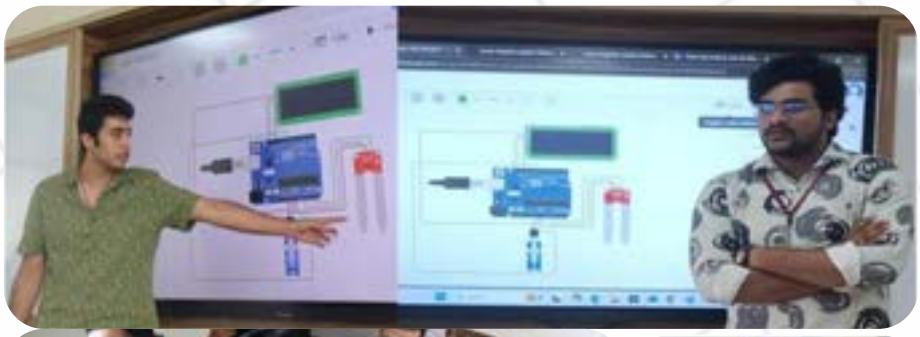
Mr. Pramod Kumar Naik, showcasing real-world applications of automation.

Dr. Vinayak B Hemadri, emphasizing the importance of integrating mechanical and AI principles in robotics.

The hands-on session, led by Utpal Kumar and Gaana Shree S, introduced participants to Arduino programming using Tinkercad. Students worked on projects like simulating traffic flow, radar technology, smart irrigation systems, and even crafting an Arduino-powered piano. The day ended with a lively Menti quiz fostering learning and friendly competition.

RoboCraft 2024 – A Journey Into Robotics

Day 2: Building the Future
The second day focused on practical implementation. Pre-assembled robotic kits were distributed to 16 teams. Participants, under the guidance of mentors, built robotic car models using ESP8266 components. The event concluded with another quiz and a race, where the fastest-working robotic car and other innovative creations were showcased.







Highlights and Achievements

Interactive Learning: From beginner-friendly programming to real-world applications.

Teamwork: 16 teams collaborated on robotic projects.

Competitions: Quizzes and challenges fostered enthusiasm and engagement.

Conclusion: RoboCraft 2024 successfully cultivated innovation, collaboration, and technical prowess, empowering students to explore the vast potential of robotics.

Faculty Coordinators

Prof. Subhash Mondal, Faculty Advisor of CIS and RAS IEEE-DSU, and Assistant Professor, Department of CSE (AI & ML).

Prof. Mithaguru, Faculty Advisor of the Yantrove Club, and Assistant Professor, Department of CSE (AI & ML) .

Quiz Time 2024 – Celebrating Knowledge and Collaboration

Dayananda Sagar University's Department of Computer Science Engineering (AI & ML), in collaboration with the IEEE Student Branch, hosted an engaging quiz competition, "Quiz Time," on November 20, 2024. This event aimed to foster intellectual curiosity and critical thinking among students while providing a platform for friendly competition and teamwork.

Event Highlights

High Participation: A total of 58 teams registered, showcasing the enthusiasm of students from various disciplines.

Structured Rounds: The event unfolded in three rounds:

Round 1: Screening Test with 25 MCQs on general knowledge, AI, and ML.

Round 2: A technical challenge focusing on advanced AI, ML concepts, and programming.

Round 3: A rapid-fire finale testing quick thinking and precision.

The event was designed to push boundaries and encourage students to explore topics beyond their curriculum, preparing them for real-world challenges.

Top Performers

The competition concluded with the announcement of the top three teams:

1st Place: Team 39 - R.S. Chiraag, Ethan Saju, Dhruv Ravi.

2nd Place: Team 29 - Shaik Fahad, Yogesh N, Suhaib Yasir Bhosgehird.

3rd Place: Team 1 - M. Harshith Raju, Aditya S, Yashaswini R.

Winners received certificates, medals, and recognition for their exceptional performance.

Quiz Time 2024 – Celebrating Knowledge and Collaboration

Key Benefits for Students

Knowledge Expansion: Exposure to diverse topics, sparking curiosity.

Skill Enhancement: Development of critical thinking, problem-solving, and time management skills.

Teamwork: Collaboration and communication within multidisciplinary teams.

Confidence Building: Overcoming stage fright and improving presentation skills

Acknowledgments and Feedback
The event, led by Prof. Subhash Mondal (Faculty Advisor, IEEE CIS SBC), received praise for its meticulous planning and execution. Participants appreciated the challenging yet enjoyable format, expressing enthusiasm for similar future events.

Conclusion
Quiz Time 2024 highlighted the importance of collaborative learning and competitions in nurturing talent. Building on its success, future plans include hackathons, coding contests, and workshops, aiming to prepare students for industry challenges.

Faculty Coordinators
Prof. Subhash Mondal, Faculty Advisor, IEEE CIS and RAS SBC, DSU.

Parent-Teacher Meeting (PTM)

The Department of Computer Science & Engineering (AI & ML) conducted a Parent-Teacher Meeting (PTM) for 3rd, 5th, and 7th-semester students on Saturday, November 23, 2024, from 10:00 AM to 12:00 PM. The meeting focused on students' academic performance, attendance, and overall progress, encouraging collaborative efforts for their development.

Faculty Coordinators

Dr. Vinutha N, Associate Professor, Department of CSE (AI & ML), DSU

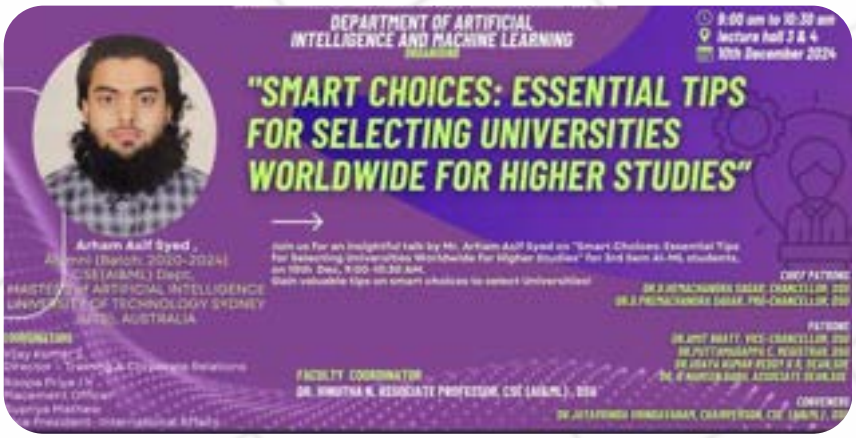
Dr. Vegi Fernando A, Associate Professor, Department of CSE (AI & ML), DSU

Prof. Pradeep Kumar K, Assistant Professor, Department of CSE (AI & ML), DSU

An Expert-talk on "Smart Choices: Essential Tips For Selecting Universities Worldwide For Higher Studies

On 10th December, 2024, the Department of Computer Science & Engineering (AI & ML) conducted an expert-talk on "Smart Choices: Essential Tips for Selecting Universities Worldwide for Higher Studies", for 3rd semester students. Arham Asif Syed, an alumnus (2020-2024), Dept. of CSE(AI&ML) of Dayananda Sagar University and a current Master's student in Artificial Intelligence at the University of Technology Sydney, Australia, shares essential tips for selecting universities for higher studies. When choosing a study destination, the USA and Canada offer unique advantages.

When choosing a study destination, the USA and Canada offer unique advantages. The USA is renowned for its world-class education, featuring top universities like MIT and Harvard, advanced curriculums, cutting-edge research, and excellent job prospects in industries like technology and healthcare. Scholarships and financial aid make it accessible for talented students. Canada, on the other hand, offers high-quality, affordable education at institutions like the University of Toronto and McGill. It provides clear pathways to post-graduation work and permanent residence (PR), affordable living costs, and universal healthcare. Both countries offer exceptional opportunities, but preferences depend on career goals and budget.



Faculty Coordinators

Dr.Vinutha N, Associate Prof.

Dept. of CSE(AI&ML)

An Expert Talk on "Effective Strategies to Excel in Gate Exam For Higher Education

On 12th December, 2024, the Department of Computer Science & Engineering (AI & ML) conducted an expert-talk on "Smart Choices: Essential Tips for Selecting Universities Worldwide for Higher Studies", for 3rd semester students. Mr. Pramod Koushik T R, an alumnus (2020-2024) of CSE (AIML) and a Master's student in Data Science at SVNIT Surat, shared strategies to excel in the GATE exam and insights on career paths post-BTech. He highlighted opportunities in PSUs (e.g., Maharatna, Navratna), private sectors, and higher education options like MBA, MTech, or MS at reputed institutes. For GATE, he recommended focusing on CS and Mathematics (85 marks) and Aptitude (15 marks), using resources like textbooks, mock tests, and materials from experts. He emphasized the benefits of these paths, including financial gains, learning, diverse exposure, and the fulfillment of career aspirations.

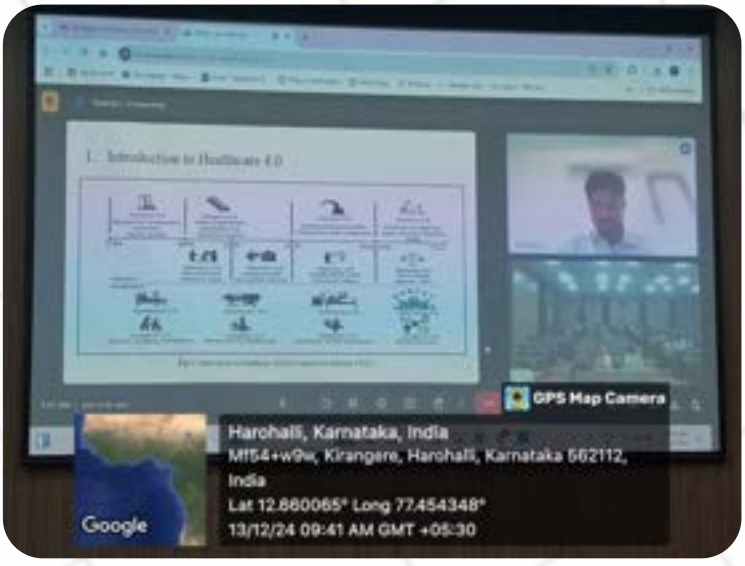
Faculty Coordinators

Dr. Vinutha N, Associate Prof. Dept. of CSE(AI&ML)

An Expert Talk on "AI solutions for healthcare 4.0

On 13th December, 2024, the Department of Computer Science & Engineering (AI & ML) conducted an expert-talk on "AI solutions for healthcare 4.0" for 5th Semester AI&ML Students.

Dr. Sulaxan Shankar Jadhav, Adjunct Faculty at Symbiosis School of Economics, explores the role of AI in transforming Healthcare 4.0. He highlights AI-driven diagnostics, predictive analytics, personalized medicine, and real-time health monitoring through smart wearables. By integrating AI with IoT, big data, and robotics, healthcare ecosystems can become more efficient and intelligent. Dr. Jadhav also addresses key challenges, including data privacy, ethical concerns, and regulatory frameworks, emphasizing the need for responsible AI adoption to improve patient outcomes and healthcare efficiency.



Faculty Coordinators

Dr. Bahubali Shiragapur, Professor, CSE (AI & ML), DSU

"PYTHON - ML WORKSHOP(1/6)" BY AI_WORKS@DSU

The recent AIWORKS@DSU event held on 16th December 2024 was a resounding success, bringing together students eager to delve into the world of Python and Machine Learning (ML). With expert-led sessions and inspiring talks, the event provided a platform for learning, exploration, and networking.

Event Highlights:

1. **Chairperson's Address:** An enlightening talk on the importance of Python and how to excel in it.
2. **Prof. Pradeep Kumar K's Session:** Insights into Data Science, Machine Learning, and writing impactful research papers.
3. **Python Basics to Advanced:** Delivered by **Anirudh Iyer**(ENG23AM0107) and **Ayush Singh**(ENG23AM0220), this session laid a strong foundation for Python programming.
4. **Introduction to Machine Learning:** Led by **Amitabh Thakur**(ENG23AM0215), the session covered Python functions and the fundamentals of ML and Types of **Learning in ML:** A clear breakdown of Supervised, Unsupervised, and Reinforcement Learning.
5. **How Machines Get Trained:** A practical understanding of ML model training.
6. **Roadmap to Becoming an ML Engineer:** Step-by-step guidance for aspiring ML professionals.

"PYTHON - ML WORKSHOP(1/6)" BY AI_WORKS@DSU

The event was interactive and engaging, with participants gaining practical knowledge and tools to advance their careers in AI and ML.

AIWORKS@DSU extends its heartfelt gratitude to the speakers, attendees, and volunteers who made this event a memorable experience. Stay tuned for future events and workshops that will continue to empower budding technologists!

- event(1/6)

Faculty Coordinators

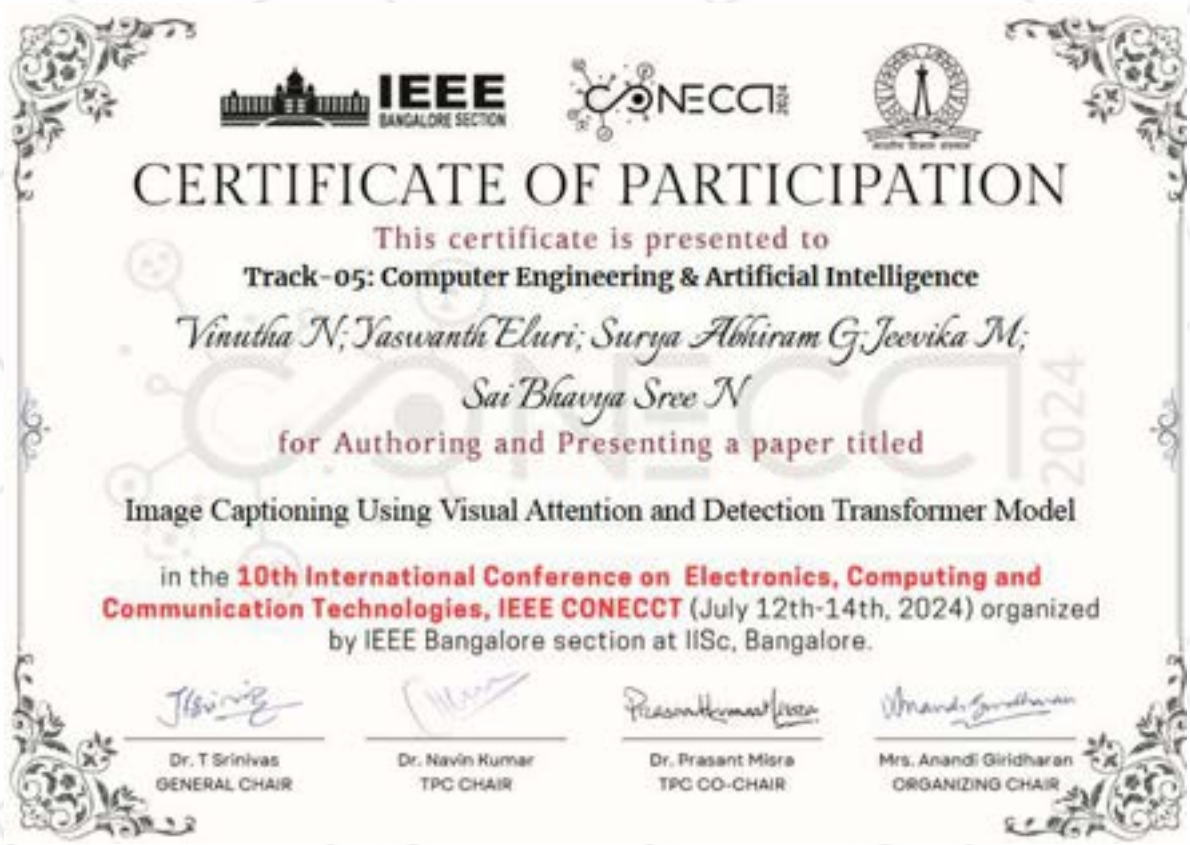
Prof. Pradeep Kumar K, Assistant Professor, Department of CSE(AI&ML)

JUL-DEC 2024
Vol.2 Issue:2

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

STUDENT ACHIEVEMENTS

Image Captioning Using Visual Attention and Detection Transformer Model



IEEE BANGALORE SECTION

CONECCT 2024

CERTIFICATE OF PARTICIPATION

This certificate is presented to

Track-05: Computer Engineering & Artificial Intelligence

Vinutha N; Yaswanth Eluri; Surya Abhiram G; Jeevika M; Sai Bhavya Sree N

for Authoring and Presenting a paper titled

Image Captioning Using Visual Attention and Detection Transformer Model

in the **10th International Conference on Electronics, Computing and Communication Technologies, IEEE CONECCT** (July 12th-14th, 2024) organized by IEEE Bangalore section at IISc, Bangalore.

Dr. T Srinivas, GENERAL CHAIR | Dr. Navin Kumar, TPC CHAIR | Dr. Prasant Misra, TPC CO-CHAIR | Mrs. Anandi Giridharan, ORGANIZING CHAIR

Yaswanth Eluri, Surya Abhiram G, Jeevika M, Sai Bhavya Sree N, 6th Semester students and **Vinutha N,** Associate Professor, Dept. of CSE (AI&ML) for Authoring and Presenting a paper titled **"Image Captioning Using Visual Attention and Detection Transformer Model"** in the **10th International Conference** on Electronics, Computing and Communication Technologies, IEEE CONECCT (July 12th -14th, 2024) organized by IEEE Bangalore section at IISc, Bangalore.

Dayananda Sagar University Shines at ICMEE 2024 with Best Paper Award

Sponsored by NIT Mizoram

Springer

9TH INTERNATIONAL CONFERENCE ON

MICRO-ELECTRONICS, ELECTROMAGNETICS AND TELECOMMUNICATIONS

ICMEET 2024

19-20 December 2024

Software Technology Parks of India (STPI), Kolkata, West Bengal, India

BEST PAPER AWARD

Awarded to

Jahnavi A
Dayananda Sagar University, Bangalore Karnataka India

Aparajita Sinha
National Institute of Technology, Agartala Tripura, India

Monika Agarwal
Dayananda Sagar University, Bangalore Karnataka India

E Swetha
Dayananda Sagar University, Bangalore Karnataka India

Poornima M Nerale
Dayananda Sagar University, Bangalore Karnataka India

C S S Krishna Kaushik
Dayananda Sagar University, Bangalore Karnataka India

for the paper titled ***Utilizing Single Short Multi Box Detection (SSD) In ISL Recognition Systems to Enhance Feature Extraction and Translation Capabilities*** *presented at ICMEET 2024, held at STPI, Kolkata during 19-20 December 2024.*

(Steering Committee Chair)

Dr Jaume Anguera
Universitat Ramon Llull, Spain
(Publication Chair)

Dr. Anumoy Ghosh
Dept. of ECE, NIT Mizoram
(Editor)

A team of exceptional researchers from Dayananda Sagar University, Bangalore, has been honored with the prestigious Best Paper Award at the **9th International Conference on Micro-Electronics, Electromagnetics, and Telecommunications (ICMEET 2024)**, held at STPI, Kolkata, India, on December 19–20, 2024. Their paper, titled **"Utilizing Single Short Multi Box Detection (SSD) in ISL Recognition Systems to Enhance Feature Extraction and Translation Capabilities"**, showcased groundbreaking advancements in ISL recognition. This accolade highlights the collaborative efforts and innovative spirit of **Jahnavi A, Monika Agarwal, Poornima M Nerale, E Swetha, and C S S Krishna Kaushik from DSU and Aparajita Sinha from NIT Agartala.**

Dynamic Slice Selection based 3D Brain Tumour Volumetric Segmentation

5th International Conference on Data Science and Applications (ICDSA 2024)

https://scrs.in/conference/icdsa2024

CERTIFICATE OF PARTICIPATION

Rohan R

presented the paper titled

Dynamic Slice Selection based 3D Brain Tumour Volumetric Segmentation

authored by

Yathish M , Vinutha N, Rohan R, Vikas Jutlad, Halaswamy M R

in the 5th International Conference on Data Science and Applications (ICDSA 2024) held during 17th to 19th July, 2024 at Malaviya National Institute of Technology Jaipur, India.

SCRS/ICDSA2024/PP/1422

Prof. Rajendra Prasad Yadav
(General Chair)

Dr. Satyasai Jagannath Nanda
(General Chair)

Organized by
Malaviya National Institute of Technology Jaipur, India
Technically Sponsored by
Soft Computing Research Society

Springer

Rohan R, 8th Semester student presented the paper titled **"Dynamic Slice Selection based 3D Brain Tumour Volumetric Segmentation"** authored by **Yathish M, Rohan R, Vikas Jutlad, Halaswamy M R, & Vinutha N,** Associate Professor, Dept. of CSE (AI&ML) in the **5th International Conference** on Data Science and Applications (ICDSA 2024) held during 17th to 19th July, 2024 at Malaviya National Institute of Technology Jaipur, India.

Neuro Transformer: Transformer Model for Motor Imagery Classification

5th International Conference on Data Science and Applications (ICDSA 2024)

https://scrs.in/conference/icdsa2024

CERTIFICATE OF PARTICIPATION

Raghav Nanjappan

presented the paper titled

NeuroTransformer: Transformer Model for Motor Imagery Classification

authored by

Raghav Nanjappan, Vinutha N, Jayavrinda V

in the 5th International Conference on Data Science and Applications (ICDSA 2024) held during 17th to 19th July, 2024 at Malaviya National Institute of Technology Jaipur, India.

SCRS/ICDSA/2024/PP/1284

Prof. Rajendra Prasad Yadav
(General Chair)

Dr. Satyasai Jagannath Nanda
(General Chair)

Organized by
Malaviya National Institute of Technology Jaipur, India
Technically Sponsored by
Soft Computing Research Society

Springer

Raghav Nanjappan, 8th Semester student presented the paper titled **"Neuro Transformer: Transformer Model for Motor Imagery Classification"** authored by **Vinutha N**, Associate Professor, **Jayavrinda V,** Professor, Dept. of CSE (AI&ML) in the **5th International Conference** on Data Science and Applications (ICDSA 2024) held during 17th to 19th July, 2024 at Malaviya National Institute of Technology Jaipur, India.

Best paper award in 2nd international students conference on multi-disciplinary and current technical research

माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
Deemed University
(Declared under Distinct Category by Ministry of Education, Government of India)
NAAC ACCREDITED WITH A++ GRADE

CERTIFICATE OF BEST PAPER PRESENTATION

CHETHAN MURTHY
Dayananda Sagar University, Karnataka, India
FOR BEST PAPER PRESENTATION IN
Technical session 11

2ND INTERNATIONAL STUDENT CONFERENCE ON MULTIDISCIPLINARY AND CURRENT TECHNICAL RESEARCH (ISCMCTR -2024)

20 - 21 APRIL 2024

Organized by MITS, Gwalior, MP, India

Dr. Manjaree Pandit
Coordinator, ISCMCTR - 2024

Ref. No.: MITS/ISCMCTR/2024/BPA37

Chethan K Murthy (ENG22AM0009) student of 5th semester AIML, **won best paper award** in **2nd international students conference** on multi-disciplinary and current technical research (ISCMCTR2024) Organized by Madhav institute of technology and science, Gwalior (M.P), India.

Student Exchange Program

Ms. Hasini Chowdary, (ENG22AM0176), 3rd year AI&ML student, at the **LeTournea University,** as a part of the **student exchange program.** Ms. Hasini will be taking up her 5th semester at **LeTournea University, Texas, US.**

2nd place in the VTION Digital Hackathon, presented by HackCulture

The team **HORIZON GUARD, Darshan Anand -** ENG21AM0028 (7th sem - AIML), **Anuj Dwivedi** - ENG21AM0011 (7th sem - AIML), **Srihari KB** (7th sem -Cybersecurity), **Naindeep Singh** (7th sem - CSE) students, after an intense **45-day challenge** with 250 participants, proudly secured **2nd place** in the VTION Digital Hackathon, presented by HackCulture, took home a cash prize of **₹75,000**. The problem statement: Build an application for connected TVs that can track usage of OTT platforms by logging activity, content, and playback ads

Science Club Inauguration at Ryan International School

Anuj Dwivedi (ENG21AM0011), a 7th-semester AI & ML student, was honored as **Chief Guest** for the **Science Club Inauguration** at **Ryan International School** on August 28, 2024. He delivered a talk on the transformative potential of AI, emphasizing its industry-changing capabilities and highlighting top AI tools shaping the future. The students' curiosity made for an inspiring engagement on real-world AI applications. **Co-Chief Guest Mr. Hiriyanna S,** a retired **ISRO space scientist,** enriched the event with insights on space technology and AI's role in space exploration, adding a complementary perspective to the discussions.

NASA Space Apps Navigator at the NASA International Space Apps Challenge

Darshan Anand (ENG21AM0028), a final-year student of the AI & ML department, has been appointed as a **NASA Space Apps Navigator** at the NASA International Space Apps Challenge. In this prestigious role, he will serve as a **global panelist for Universal Event Judging and mentor participating teams.** This renowned event, which last year attracted **57,999 participants** from **152 countries,** fosters global innovation and collaboration, bringing together some of the brightest minds from around the world.

First Place in TVS Credit's E.P.I.C 6 Challenge

Ratan Ravichandran (ENG21AM0093) and **Sayli Bande** (ENG21AM0112), 7th semester students from the department of AI & ML, School of Engineering at Dayananda Sagar University, have secured **First Place** in TVS Credit's E.P.I.C 6 Challenge under the IT Track winning a cash prize of **1 Lakh Rupees!**

NASA Space Apps Challenge Winners

Popat Amee Dipak (ENG23AM1007), **K. Himasree** (ENG22AM0103) 5th semester students from the department of AI & ML, School of Engineering at Dayananda Sagar Universityhave secured the **2nd prize** in this prestigious competition NASA Space Apps Challenge. Their team, **QuantumBytte**, worked on the project titled "**Tell Us a Climate Story**", where they used NASA data to craft a compelling narrative on climate change. This achievement highlights their dedication and innovative approach in addressing one of the most critical issues of our time – the environment.

Zerodha Quiz Winners

Celebrating **Our Champions** at the **Zerodha Varsity Quiz!** We are overjoyed to announce that our brilliant students from the Department of CSE (Artificial Intelligence and Machine Learning) have achieved outstanding success at the prestigious Zerodha Varsity Quiz! 1st Place Champions Our champions, **Chethan Keshav** (ENG22AM0009), **Ayden Alvito Xavier Joanes** (ENG22AM0079), and **Jiyanshee Jain** (ENG23CS0330), showcased their exceptional knowledge and teamwork, standing out among **600 participants** from diverse fields such as management, law, medicine, and engineering. Their remarkable achievement has earned them the 1st place title and a well-deserved cash prize of **₹12,000!** This victory is a testament to their dedication, brilliance, and the high standards they represent.

Zerodha Quiz Winners

Adding to the celebration, we're thrilled to announce that our talented team, **Mitesh Srinivasan** (ENG22AM0034), **T S Farhan** (ENG22AM0065), and **Ullas Chander** (ENG22AM0066), claimed the prestigious 2nd position in this highly competitive quiz! Competing with the same **600 participants** across disciplines, their knowledge and teamwork earned them a cash prize of **₹9,000,** marking an inspiring feat that reflects their commitment and expertise.

Indian solo dance performance AT CHIGURU-2024

Sneha Patra, (ENG23AM0195), III semester student, Dept. of CSE (AI&ML) awarded second prize in Indian solo dance performance AT CHIGURU-2024 held at Cambridge Institute of Technology, Bengaluru on 23rd November 2024.

7-days State Level NSS camp!

We are thrilled to share the achievement of our student, **Manyashree D** (2nd year, AIML, ENG23AM0043), who has successfully completed her 7-days State Level NSS camp! Manyashree actively participated as an NSS volunteer in the "State Level Youth Leadership Camp on Gandhian Values" and demonstrated exceptional leadership skills. Her dedication and enthusiasm were highly appreciated.

Smart India Hackathon Success Story: Team Shamsheer's Innovative Achievement

The Smart India Hackathon (SIH), a prestigious national-level innovation platform initiated by the Government of India, aims to cultivate problem-solving skills and technological creativity among students. Out of an impressive pool of 56,000+ idea submissions across 204 problem statements, **Team Shamsheer** distinguished themselves by qualifying for the top 5 teams, and winning first prize at the Grand Finale.

Project Overview

Problem Statement ID: 1626

Project Focus: Developing an advanced application for Smooth Hierarchical Data Flow and Enhanced User Interface

Commissioned By: Government of National Capital Territory (NCT) of Delhi

Achievement

The team clinched the first prize at the Grand Finale, which was hosted at the Sri Krishna Institute of Engineering and Technology in Coimbatore, Tamil Nadu.

Smart India Hackathon Success Story: Team Shamsheer's Innovative Achievement

Team Members
Rohan Jaiswal (Team Lead) - ENG22CS0580
Ritvik Vasundh - ENG22AM0125
Utkarsh Priye Jha - ENG22CS0602
Jiya Patel - ENG22CS0387
Rashi Badiya - ENG22CS0406
Chinamyi Palled - ENG22CS0280

Mentors

Dr. Bipin Kumar Rai - Professor, Computer Science and Engineering
Tarun Agarwal - Software Engineer, GoTurbo

Team EVARA

On 15th of November 2024, Team **EVARA (representing DSU)** participated in **fashion walk in T Jones college** has secured **1st place** in this event and have got a **cash prize of 5000rs**

Team Members
Sarthak (ENG23AM0185-AIML)
Brijesh (ENG23AM0140-AIML)
Charmi (ENG23CS0291-CSE core)
Pravalika (SC23PH0033-COPS)
Sanjana (ENG24EC0096-ECE)
Siddharth (ENG24AD0059)
Pranamya (ENG24DS0155 CSE-DS)
Aditya (ENG24CS0312CSE-CORE)
Vishwas (24UGENG1343-DS)
Vaishnavi (ENG22CS0493)
Shreshta (24UGENG0008- Cs Core)
Priyanka (ENG23DS0026-Data science)

TOPPERS OF CSE (AI-ML) 2020-2024 BATCH.

NAME - GAURAV KAMATH
USN - ENG20AM0023
84.60 %

NAME: GOPIKA JAYADEV
USN: ENG20AM0024
83.30 %

NAME: HARI PRADHA P
USN: ENG20AM0027
82.90 %

NAME - IVAN RENI VARGHESE
USN - ENG20AM0031
82.80 %

VI SEM TOPPERS OF CSE (AI-ML) 2021-2025 BATCH.

NAME - JUVVI SAI AKSHITHA
USN - ENG21AM0052
SGPA : 10

NAME: ALISHA ALIAS
USN: ENG21AM0005
SGPA: 9.85

NAME: DEEPANSHI MISHRA
USN: ENG21AM0029
SGPA: 9.85

IV SEM TOPPERS OF CSE (AI-ML) 2022-2026 BATCH.

NAME - TRIJAL R
ENG22AM0167
SGPA: 10

NAME - LAKSHYA U REDDY
ENG22AM0169
SGPA: 10

NAME - HARSHITH G R
ENG22AM0021
SGPA: 9.82

NAME - YOGESH N
ENG22AM0070
SGPA: 9.73

JUL-DEC 2024
Vol.2 Issue:2

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

FACULTY ACHIEVEMENTS

Resource Person Recognition (July 2024):

Dr. Jayavrinda Vrindavanam, Head of the Department of CSE (AI&ML), along with her team, was awarded a Certificate of Appreciation for serving as a resource person in the value-added course "Machine Learning Models and its Mathematical Framework". Conducted from 16th to 22nd July 2024, this course showcased her leadership and expertise in AI and machine learning.

Patent Publication (August 2024):

As a collaborator and co-inventor, Dr. Jayavrinda Vrindavanam contributed to a patent under Intellectual Property Rights (IPR), Application No. 202441063265 A. Titled "SEPIC-Based BESS for Maintaining Maximum Power Point of Solar Panels Using Machine Learning and Method Thereof," the patent was published in The Patent Office Journal No. 35/2024. The innovative SEPIC-based Battery Energy Storage System (BESS), employing machine learning, aims to optimize solar panel efficiency.

Dr. Jayavrinda's exceptional leadership and contributions continue to strengthen the department's reputation for research and innovation in AI, machine learning, and sustainable technologies.

Dr. Jayavrinda Vrindavanam

Resource Person Recognition (Nov, 2024):

Dr. Bahubali shared an enriching session on higher education and career success strategies. Dr. Bahubali emphasized a structured approach to pursuing higher studies, advising students on identifying personal interests, exploring research-oriented programs, preparing for exams, seeking scholarships, and networking with alumni. He also highlighted the importance of internships and research to build practical experience and enhance professional networks. For career preparation, Dr. Bahubali shared strategies for excelling in interviews, including researching companies, practicing responses, showcasing problem-solving abilities, and demonstrating essential soft skills. He further inspired students to consider entrepreneurial paths, encouraging innovation and the pursuit of ventures beyond traditional roles. Dr. Bahubali insightful guidance left a positive impact, equipping students with valuable tools for academic and career advancement.

Dr. Bahubali Shiragapur

Certifications & Recognition

Felicitator for AI for Future Workforce Program (India) – Awarded on October 18, 2024, recognizing his contribution to AI education and shaping the future workforce.

Contributions as Resource Person

Contributed as a Resource Person in various academic programs, sharing valuable expertise in AI, Machine Learning, and Computational Intelligence.

Role in Faculty Development Programs

Actively participated in Faculty Development Programs (FDPs) and workshops, sharing insights and knowledge on AI, Machine Learning, and related fields.

Dr.Vegi Fernando

Workshops and Expert Talks

- **Machine Learning Applications in Manufacturing**
  - Participated in a **One-Week Workshop on "Machine Learning Applications in Manufacturing"** (15th July – 20th July 2024), sponsored by **Scheme for Promotion of Academic and Research Collaboration (SPARC), MoE, GoI,** organized by Department of Mechanical Engineering, **NIT Warangal,** in collaboration with **Clemson University, South Carolina & University at Buffalo, United States.**
- **Expert Talk on Foundational Models of Deep Learning**
  - Delivered an expert talk on **"Foundational Models of Deep Learning"** for MCA students at **Surana College, Kengeri Satellite Town, Bangalore**, on 25th July 2024.
- **AI Frontier Workshop**
  - Delivered a **1-Day Workshop at St. Francis De Sales College**, on 25th September 2024, on the topic **"Unraveling the AI Frontier: Deep Learning, Explainable AI, and the Emergence of Generative Models"**.

Journal Publication

Unveiling PCOS Diagnosis with AI: **A Comparative Approach using Machine Learning and Deep Learning**, Published in **International Journal of Intelligent Systems and Applications in Engineering, Auricle Global Society of Education and Research,** e-ISSN: 2147-6799, Vol 12, No 4, 2024 Bhavana B R, Vinutha N, Pradeep Kumar K

Conference Publication

"Hybrid Spiking Neural Network-Attention Model for Multi-Class Heart Disease Detection" has been accepted for presentation at the **6th International Conference on Recent Advances in Information Technology (RAIT) 2025**, scheduled to be held on March 6-8, 2025 at the Department of Computer Science and Engineering **IIT ISM Dhanbad.**-C S S Kaushik, Vinutha N, Jayavrinda Vrindavanam V

Dr.Vinutha N

Accepted Papers for Presentation

- Emphysema Classification using CBAM-Augmented ResNet-50
  - Paper titled "Attention-Enhanced Transfer Learning for Emphysema Classification Using CBAM-Augmented ResNet-50" has been accepted for presentation at the 6th International Conference on Recent Advances in Information Technology (RAIT) 2025, scheduled to be held from March 6-8, 2025 at Department of Computer Science and Engineering, IIT ISM Dhanbad.
- **Augmenting Medical Diagnostics with AI**
  - Paper titled "Augmenting Medical Diagnostics with AI: A Dual Approach Using RAG-Based Chatbots and Nano GPT Models" has been accepted for presentation at the 6th International Conference on Recent Advances in Information Technology (RAIT) 2025.

Awards and Recognition

1. Received “Best Researcher Award” from Innovative Research & Education Academy for academic contributions to the specialization in Computer Science & Engineering during the academic year 2024-2025 on 29/11/2024.

Research Article

1. Sasikumar S., Aravind Balaji B., Joshuva A., Nagarajan Deivanayagampillai. Cameraless sensor fusion: developing a cost-effective driver assistance system using radar and ultrasonic sensor. Sensor Review. 2024 Dec 19. [Q3, Impact Factor: 1.6]
2. Srivatsan B, Naveen Venkatesh S, Aravinth S, Sugumaran V, Arockia Dhanraj J, Solomon JM, Muthu Vaidhyanathan R. Fault Diagnosis of Air Compressors using Transfer Learning: A Comparative Study of Pre-Trained Networks and Hyperparameter Optimization. Journal of Low Frequency Noise, Vibration and Active Control. 2024 Aug 13:14613484241273652. [Q2, Impact Factor: 2.8]
3. Gowda VP, BE N, Muthiya SJ, Arockia Dhanraj J, Rushman JF, Verma A. Enhancing Friction Stir Spot Welding of Al 5754 and Al 6111 Joints Using Taguchi’s Technique. Journal of Engineering. 2024;2024(1):7213167. [Q2, Impact Factor: 1.7]

Books Published

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.

Dr.Joshuva Arockia Dhanraj

WORKSHOP ATTENDED

Sl. No	Title	Level of Event (International/ National)	Dates	Role	Venue
1.	**Developing Healthy Work Culture at Work Place (NITTTR)**	National	02/12/2024 to 06/12/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
2.	**Outcome based Education and Accreditation Process (NITTTR)**	National	25/11/2024 to 29/11/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
3.	**Introduction to Machine Learning (SWAYAM-NPTEL)**	National	22/07/2024 to 21/10/2024	Participation	NPTEL - Indian Institute of Technology Madras, India
4.	**Development of Employable Skills (NITTTR)**	National	07/10/2024 to 11/10/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
5.	**Planning, Execution and Evaluation of Project Work (NITTTR)**	National	09/09/2024 to 13/09/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
6.	**Communication at Workplace (NITTTR)**	National	22/07/2024 to 26/07/2024	Participation	National Institute of Technical Teachers Training and Research, Chandigarh, India
7.	**Exploring Computational Intelligence (AICTE)**	National	16/07/2024 to 20/07/2024	Participation	Vellore Institute of Technology, Amaravati, Telangana, India

Patents

1. Talada Santhosh, Trinadha Burle, Pritee R. Rane, Arulvendhan Kalaichelvan, Hemachandu Pattur, Joshuva Arockia Dhanraj. Surge Protecting Device. Application Number: 6385829, UK Patent, Filed on 20-08-2024, Grant on 27-08-2024.
2. Sumit Kumar Mishra, Pullela SVVSR Kumar, Dileep M R, Siva Padmini P, Sundara Rajulu Navaneethakrishnan, Joshuva Arockia Dhanraj. Real-Time Cyber Attack Mitigation using ML Algorithms. Application Number: 1215899, Canada Patent, Registration on 20-07-2024.

Book Chapters

1. Shameem A, Visvesvaran C, Revathi V, Jain A, Singhal RK, Dhanraj JA. Supply Chain Security in 6G Networks: Commerce's Critical Challenge. In6G Security Education and Multidisciplinary Implementation 2024 (pp. 191-211). IGI Global.
2. 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. InPowering Industry 5.0 and Sustainable Development Through Innovation 2024 (pp. 59-72). IGI Global.

PhD Research Guidance [Completed]

1. Rakesh Rajendran (Register Number: ME1703) from Hindustan University will present his thesis titled "An Holistic Approach for Developing Hybrid Wall Climbing Robot with High Payload-Weight Ratio and to Investigate the Reduction of Peeloff and Rollover Effect." His work focuses on the field of Mobile Robots, and his defense is scheduled for 23rd August 2024.
2. Karthick Kumar Santhanaraj (Register Number: RO1601), also from Hindustan University, will defend his thesis titled "Biologically Inspired Self-Organizing Computational Models for Assistive Robots to Mimic Infant Learning." His research specializes in Assistive Robots, and his defense is planned for 3rd September 2024.

MOOC COURSE ATTENDED

Course Title University: Introduction to Machine Learning
Organization Offered: IIT Madras
MOOC Provider: NPTEL

Dr. Sumit Kumar Yadav, Assistant Professor in the Department of CSE (AI&ML) at Dayananda Sagar University, was awarded a Certificate of Appreciation for his contributions as a **resource person** in the value-added course **"Machine Learning Models and its Mathematical Framework"** held from 16th to 22nd July 2024. He played a key role in delivering lectures, guiding hands-on sessions, and mentoring participants, helping them understand the mathematical foundations of machine learning models. His expertise and active involvement significantly enhanced the learning experience for the attendees.

Dr.Sumit Kumar Yadav

Conference Presentations and Paper Submissions

- **Presented Paper at ICCES 2024**
  - Dr. Lakshmanan presented the paper titled "**Leveraging Blockchain for Secure and Efficient Crowdfunding: An Optimized Particle Swarm Approach"** at the **9th International Conference on Communication and Electronics Systems (ICCES 2024)** organized by **PPG Institute of Technology, Coimbatore,** India, on 16-18 December 2024.

Faculty Development Programs (FDPs)

- **AICTE Training and Learning (ATAL) Academy FDP**
  - Dr. Lakshmanan successfully participated in and completed the **AICTE Training and Learning (ATAL) Academy Faculty Development Program** on **Exploring Emerging Technologies in Next-Gen Communication Networks** at **R.L. Jalappa Institute of Technology** from 25th November to 30th November 2024.
- AWS Cloud Practitioner FDP
  - Dr. Lakshmanan participated in the Two-day Faculty Development Program on "AWS Cloud Practitioner" focusing on Pioneering Innovations in Healthcare, organized by the Department of Computer Science and Engineering at Sri Venkateswara College of Engineering from 11th November to 12th November 2024.

Dr. M. Lakshmanan

PhD Convocation
Certificate Awarded on 21st September 2024 from VIT University, AP, India

Workshops & Training :

- **AR & VR Training using Unity**
  - Participated in the workshop organized by Learnfella (12th–18th July 2024).

- **International Online FDP on Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication**
  - (1st–6th July 2024), organized by KL University, Hyderabad.

- **IEEE ARIIA 2024-Pre Conference E-Workshop**
  - Mastering IEEE Paper Writing: Guidelines, Tips, and Best Practices (30th July 2024).

- **National Level FDP on Exploring Computational Intelligence**
  - (16th–20th July 2024), organized by VIT-AP University.

- **AICTE Recognized FDP on IoT Enabled Embedded Systems**
  - (22nd–26th July 2024) at NITTTR, Chandigarh.

- **AICTE Recognized FDP on OpenCV for Image and Video Processing Applications**
  - (22nd–26th July 2024) at NITTTR, Chandigarh.

- **International Online FDP on AI for Sustainable Development**
  - (5th–9th August 2024), organized by VIIT Pune.

Dr.Shreyas Rajendra Hole

Research Contributions

- **Registered Design:**
  - "Sensor-Based Network Intrusion Detecting Device" (Design No. 6375834) registered on 3rd July 2024.
- **Patent:**
  - "SEPIC-Based BESS for Maintaining Maximum Power Point of Solar Panels Using Machine Learning" (Application No. 202441063265 A) published on 30th August 2024.

Book Publication

- **Textbook:**
  - "**Artificial Intelligence**" (First Edition), published by Scientific International Publishing House (SIPH).
  - **Available on** Flipkart **and** Amazon**.**

Certificates of Appreciation

- **Resource Person:**
  - Awarded for valuable time and expertise in the **Machine Learning models and its Mathematical Framework** course (16th–22nd July 2024).
- **Reviewing and Chairing:**
  Recognition for reviewing and chairing technical sessions at various conferences:
  - **IEEE ARIIA 2024:** "*Transformative Effects of Artificial Intelligence on Workforce Dynamics in Industry 4.0*" (20th–21st December 2024).
  - **IEEE ARIIA 2024: "***Impact of Artificial Intelligence on the Development of Employment and the Labor Market***"** (20th–21st December 2024).
  - **ICAAIMLS-2024:** Session chair and reviewer for the **International Conference on Advancements in Artificial Intelligence and Machine Learning for Security** (20th–21st December 2024).

Conference Participation

- *Reviewing Role:*
  - Served as a reviewer for the **4th International Conference on Intelligent Systems and Machine Learning (4thICISMI-2024)**, organized by KPR Institute of Engineering and Technology, Coimbatore (23rd–24th August 2024).
- **Technical Session Chair:**
  - Awarded certificate for chairing a technical session at the **ECPS&CI-2024 Conference** (8th–9th November 2024).

Workshops and Expert Talks

- **AICTE Recognized Faculty Development Programme on Curriculum Development**
  - Participated in the **AICTE Recognized Faculty Development Programme** on Curriculum Development aligned with **NEP 2020**, conducted by Curriculum Development Centre Department from 01/07/2024 to 05/07/2024 (One Week) at **NITTTR, Chandigarh**.
- **Exploring Computational Intelligence**
  - Successfully participated in the **Five Days National Level Faculty Development Program** on "**EXPLORING COMPUTATIONAL INTELLIGENCE**" organized by **SCOPE, VIT-AP University, Amaravati** from 16-07-2024 to 20-07-2024.
- **AICTE Recognized Faculty Development Programme on IoT Enabled Embedded Systems**
  - Participated in the **AICTE Recognized Faculty Development Programme on IoT Enabled Embedded Systems,** conducted by Electronics and Communication Engineering Department from 22/07/2024 to 26/07/2024 (One Week) at **NITTTR, Chandigarh.**
- **Deep Learning for Engineering Applications**
  - Participated in the **AICTE Recognized Faculty Development Programme on Deep Learning for Engineering Applications,** conducted by Computer Science and Engineering Department from 02/09/2024 to 06/09/2024 (One Week) at **NITTTR, Chandigarh.**

Dr. Mude Nagarjuna Naik

Awards and Recognition

- **Certificate of Appreciation for Resource Person**
  - Awarded **Certificate of Appreciation** for valuable time and expertise as **RESOURCE PERSON** in the value-added course **"Machine Learning Models and its Mathematical Framework"** (16th – 22nd July 2024), offered by **Dayananda Sagar University.**
- **Certified Facilitator**
  - Certified as a **Facilitator of AI for Future Workforce Program** in India on October 18, 2024.

Accepted Papers for Presentation

- **Impact of AI on Employment and Labor Market**
  - Paper titled "**IMPACT OF ARTIFICIAL INTELLIGENCE ON THE DEVELOPMENT OF EMPLOYMENT AND THE LABOR MARKET**" accepted for presentation at the **IEEE International Conference on Augmented Reality, Intelligent Systems, and Industrial Automation** (ARIIA-2024), held on 20-21 December 2024, at **Manipal Institute of Technology, Manipal Academy Of Higher Education, Manipal, India**.

Certifications

- **NPTEL Certificate**
  - Awarded **NPTEL certificate** for successfully completing the **12-week (Jul-Oct 2024) NPTEL course on Introduction to Internet of Things.**
- **Reviewer for International Conference**
  - Served as a **Reviewer** for the **4th International Conference on Computer, Communication, Control, and Information Technology (C3IT),** 2024, organized by **Academy of Technology**, G.T. Road, West Bengal, India.

Journal Publication

Journal: The Institute of Electronics and Information Engineers (IEIE Transactions on Smart Processing & Computing)

Title: Discrimination of Feature Influence Model for Obesity Prediction using Machine Learning Techniques.

DOI : 10.5573/IEIESPC.2024.13.4.354 **(Q4, SCOPUS)**

Conference Publication

Title: Methodological Insights into Protein Clustering Using BERT & RoBERTa

Conference: 10th International Conference on Electronics, Computing and Communication Technologies, IEEE CONECCT (July 12th -14th, 2024)

DOI: 10.1109/CONECCT62155.2024.10677287 **(SCOPUS)**

Paper Presentation

- **Heart Failure Patients In-Hospital Mortality Risk Prediction Models**
  - Accepted and presented the paper titled "**Heart Failure Patients In-Hospital Mortality Risk Prediction Models Based on Regularization Techniques-Comprehensive Analysis**" in the **10th International Conference on Electronics, Computing and Communication Technologies, IEEE CONECCT** (July 12th -14th, 2024), organized by **IEEE Bangalore section at IISc, Bangalore.**

Prof.Subhash Mondal

Recognition for Contribution

- **Certificate of Appreciation**
  - Awarded for valuable contribution as a Resource Person for the "Machine Learning Models and its Mathematical Framework" course from 16th to 22nd July 2024, organized by the Department of CSE (AI & ML), Dayananda Sagar University.

Faculty Development Programme

- **Machine Learning and Generative AI**
  - Participated in a 40-hour Faculty Development Programme on “Machine Learning and Generative AI”, sponsored by Ministry of Electronics and Information Technology (MeitY), GoI, organized by E&ICT Academy, NIT Warangal and MLR Institute of Technology, Hyderabad, from 22nd July to 1st August 2024.
- **Generative AI**
  - This is to certify that Prof. Subhash Mondal from Dayananda Sagar University has participated in "Generative AI: Foundations, Applications, and Future Directions" organized by Electronics and ICT Academy, IIT Roorkee from 18th Nov 2024 — 22nd Nov 2024.
- **Pioneering the Future of Healthcare: Robotics, Deep Learning, and Emerging Tech**
  - participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Pioneering the Future of Healthcare: Robotics, Deep Learning, and Emerging Tech. at ACADEMY OF TECHNOLOGY from 02/12/2024 to 07/12/2024.

Reviewer: Journals

1. Scientific Report-Nature Publication-Springer (Q1, SCI)
2. Cluster Computing-Springer (Q1, SCI)
3. Iranian Journal of Science and Technology, Transactions of Electrical Engineering (Q2, SCI)

Prof. Ayan John, Assistant Professor in the Department of CSE (AI&ML), participated in a **One-Week Faculty Development Program (FDP)** and **Workshop on Advanced Computer Vision for Image & Video Analysis and Applications** from 17th to 21st June 2024.

Organized by the Department of CSE at **IIIT Kottayam**, the workshop delved into advanced computer **vision techniques, including image and video processing, deep learning models, and real-world applications like healthcare and autonomous systems.**

Through interactions with **industry experts** and **researchers**, Prof. Ayan gained valuable insights into integrating cutting-edge technologies into **practical** and **academic scenarios,** showcasing his dedication to advancing AI and machine learning education.

Prof. Ayan John

Workshops & Training

- **International Online FDP on Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication**
  - Participated from 1st July to 6th July 2024, organized by KL University, Hyderabad.

- **Faculty Development Programme on AI for Future Workforce**
  - (22nd–26th July 2024), conducted by Computer Science and Engineering Department in collaboration with Intel at NITTTR, Chandigarh.

- **IEEE ARIIA 2024-Pre Conference E-Workshop**
  - Mastering IEEE Paper Writing: Guidelines, Tips, and Best Practices (30th July 2024).

- **National Level FDP on Exploring Computational Intelligence**
  - (16th–20th July 2024), organized by SCOPE, VIT-AP University, Amaravati.
- **International Online FDP on AI for Sustainable Development**
  - (5th–9th August 2024), organized by VIIT Pune and IEEE Region 10.

Editorial & Research Contributions

- **Editor:**
  - International Journal of Computer Science and Mechatronics (IJCSM-2455-1910). Consistently contributing to research and academic writing.

Prof.Sriramkumar R

Research Presentation

- Paper Presentation:
  - **"Independent Navigation System for Visually Impaired People using Deep Learning Technique"** Presented at the **4th International Conference on Intelligent Systems and Machine Learning (4th ICISML-2024)**, organized by the Department of Artificial Intelligence and Data Science, KPR Institute of Engineering and Technology, Coimbatore, Tamil Nadu (23rd–24th August 2024).

Certifications & Recognition

- **NPTEL Certificate:**
  - Successfully completed the 8-week NPTEL course on Computer Graphics (Jul-Sep 2024).

Workshops and Expert Talks

- **Machine Learning Applications in Manufacturing**
  - Participated in a **One-Week Workshop on "Machine Learning Applications in Manufacturing"** (15th July – 20th July 2024), organized by **NIT Warangal**, in collaboration with **Clemson University and University at Buffalo**, under the **SPARC initiative by MoE, GOI.**

- **Resource Person for Machine Learning Course**
  - Recognized as a **Resource Person** for the **value-added course** "**Machine Learning Models and its Mathematical Framework**" (16th – 22nd July 2024) conducted by **Dayananda Sagar University**.

Accepted Papers for Presentation

- Augmenting Medical Diagnostics with AI
  - Paper titled "Augmenting Medical Diagnostics with AI: A Dual Approach Using RAG-Based Chatbots and Nano GPT Models" has been accepted for presentation at the 6th International Conference on Recent Advances in Information Technology (RAIT) 2025.

Prof.Pradeep Kumar K

Prof. Udaya Bhaskara N has made valuable contributions through his active participation and expertise in various academic activities. He participated in the one-week workshop on "**Machine Learning Applications in Manufacturing**" from 15th July to 20th July 2024, organized by the Department of Mechanical Engineering, **NIT Warangal,** in collaboration with **Clemson University, South Carolina and the University at Buffalo, United States.** This workshop, sponsored by the Scheme for Promotion of Academic and Research Collaboration (SPARC), MoE, GOI, focused on the practical applications of machine learning in the manufacturing sector.

In addition, Prof. Udaya Bhaskara N was awarded a **Certificate of Appreciation** for his role as a Resource Person in the value-added course on "**Machine Learning Models and its Mathematical Framework"**, held from 16th to 22nd July 2024 by the Department of CSE (AI&ML) at Dayananda Sagar University. His involvement in these initiatives reflects his commitment to advancing knowledge and fostering innovation in the field of Artificial Intelligence and Machine Learning.

Prof.Udayabhaskara N

Prof. Pavithra A was awarded a **Certificate of Appreciation** for her significant contribution as a **Resource Person** in the value-added course **"Machine Learning Models and its Mathematical Framework"** held from 16th to 22nd July 2024. Her expertise and dedicated involvement in the course, organized by the Department of CSE (AI&ML), were instrumental in providing students with a comprehensive **understanding of machine learning concepts and their mathematical foundations.**

Her continuous efforts in education, research, and mentoring contribute immensely to the academic environment at Dayananda Sagar University, especially in the domain of Artificial Intelligence and Machine Learning.

Prof.Pavithra A

Faculty Development Programs (FDPs)

- **Five Days National Level FDP on "Exploring Computational Intelligence"**
  - Prof. Mithaguru participated in the **Five Days National Level FDP on "Exploring Computational Intelligence",** organized by **SCOPE, VIT-AP University, Amaravati,** from 16th to 20th July 2024.
  - This program focused on cutting-edge topics in **computational intelligence**, including **AI, machine learning,** and **optimization techniques.**
- **One-Week FDP on "AI for Future Workforce"**
  - Prof. Mithaguru also participated in the **One-Week FDP** on **"AI for Future Workforce",** conducted by the **Computer Science and Engineering Department** in collaboration with **Intel** at **NITTTR, Chandigarh**, from 22nd to 26th July 2024.
  - The program delved into the **integration of AI technologies** to prepare for the **evolving workforce demands.**

Prof. Mithaguru

JULY- DEC 2024

GALLERY

JULY- DEC 2024

GALLERY

JULY- DEC 2024

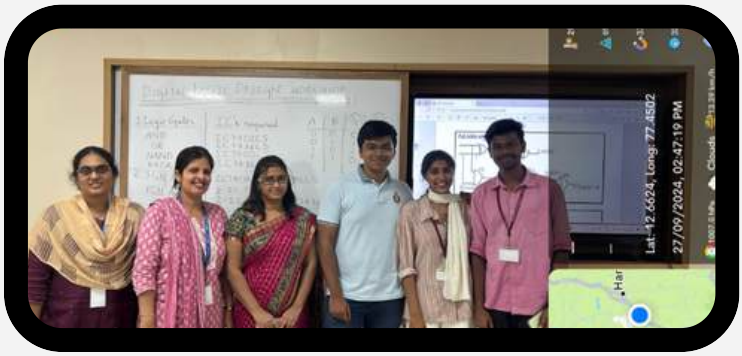
GALLERY

JULY- DEC 2024

GALLERY

GALLERY


This is our
Happy Place


Lat: 12.6624, Long: 77.4502
27/09/2024, 02:47:19 PM

JULY- DEC 2024

GALLERY

JULY- DEC 2024

GALLERY

JULY- DEC 2024

GALLERY

GALLERY

GALLERY

JULY- DEC

GALLERY 2024

EDITORIAL BOARD

EDITORIAL BOARD MEMBERS

DR. JAYAVRINDA VRINDAVANAM
PROFESSOR & CHAIRPERSON

DR.SHREYAS RAJENDRA HOLE
ASSISTANT PROFESSOR

DR.MUDE NAGARJUNA NAIK
ASSISTANT PROFESSOR

STUDENT COORDINATORS

KAVIYA U
CSE-(AI&ML)

AMITABH THAKUR
CSE-(AI&ML)