	Faculty Development Program	

Event Outcome

Title : Emerging Frontiers in AI: From Robotics to Healthcare and IoT Applications

Date : 2024-10-14 - 2024-10-18
Time : 10:00 - 17:30
Venue : SJT606

- Illustrate multimodal image classification by learning to leverage AI for analyzing and processing various types of images across modalities.
- Explore Generative AI and LLMs like GPT to understand their impact on natural language processing and problem-solving tasks.
- Investigate recent trends in robotics by exploring AI-driven advancements in automation, including applications in Mars exploration.
- Apply AI in IoT systems to develop intelligent, autonomous solutions in industries such as healthcare.
- Simulate physiological models using AI to advance diagnostics and treatments in computational physiology.

	Resource Person 1 - Details **Name :** Sumit K mandal **Designation :** Assistant Professor, Department of Computer Science and Automation **University/ Company :** Indian Institute of Science, Bangalore **Address :** India, 560012.
	Resource Person 2 - Details **Name :** Dr Snekhalatha U **Designation :** Professor Head, Biomedical Engineering **University/ Company :** SRM Institute of Science and Technology, Chennai **Address :** India, 600089.
	Resource Person 3 - Details **Name :** Dr S P Angeline Kirubha **Designation :** Associate Professor, Biomedical Engineering **University/ Company :** SRM Institute of Science and technology, Chennai **Address :** India, 600089.
	Resource Person 4 - Details **Name :** Prateek Goyal **Designation :** Senior Software Engineer, Cisco Systems Inc **University/ Company :** Cisco Systems Inc, Austin Texas USA **Address :** USA, 78729.
	Resource Person 5 - Details **Name :** Dr P Anandhakumar **Designation :** Professor, Department of Information technology **University/ Company :** Madaras Institute of Technology Anna University, Chennai **Address :** India, 600044.
	Resource Person 6 - Details **Name :** Dr Subramanian R **Designation :** Professor, Pondicherry University **University/ Company :** Pondicherry University, Pondicherry **Address :** India, 605008.
	Resource Person 7 - Details **Name :** Dr Rohit Kumar **Designation :** Adjunt Professor, University of Barcelona **University/ Company :** University of Barcelona, Barcelona **Address :** Spain, 08970.
	Resource Person 8 - Details **Name :** Dr C S Saravana Kumar **Designation :** Senior Software Architect, Bosch Global Software Technologies **University/ Company :** Bosch Global Software Technologies, Coimbatore **Address :** India, 641003.

	Resource Person 9 - Details **Name :** Dr Sathya Subramaniam **Designation :** Senior Professor, Physiology CMC **University/ Company :** CMC, Vellore **Address :** India, 632002.
	Resource Person 10 - Details **Name :** Dr John Roshan **Designation :** Professor, Cardiology CMC **University/ Company :** CMC Vellore , Vellore **Address :** India, 632517.
	Resource Person 11 - Details **Name :** Dr Jeyanth Rose **Designation :** Professor, Opthalmology CMC Vellore **University/ Company :** CMC Vellore, Vellore **Address :** India, 632517.
	Resource Person 12 - Details **Name :** Dr Hannah **Designation :** Early Career Research Fellow , Radiation Oncology CMC Vellore **University/ Company :** CMC Vellore, Vellore **Address :** India, 632517.
	Resource Person 13 - Details **Name :** Dr Venkatraman **Designation :** Industrialist, Biovision Chennai **University/ Company :** Biovision, Chennai **Address :** India, 600037.
	Resource Person 14 - Details **Name :** K Kanagaraj **Designation :** Business Development Manager, AD INSTRUMENTS New Delhi **University/ Company :** AD INSTRUMENTS , New Delhi **Address :** New Delhi, 110001.
	Resource Person 15 - Details **Name :** ANANDAKUMAR D **Designation :** Principal Data Scientist, Five C Network Bangalore **University/ Company :** Five C Network Bangalore, Bangalore **Address :** India, 560076.
	Resource Person 16 - Details **Name :** Dr Malaya Kumar Nath **Designation :** Assistant Professor, NIT Puthuchery **University/ Company :** Department of ECE, Puducherry **Address :** India, 609609.

	Resource Person 17 - Details **Name :** Bhargava Subramaniam **Designation :** Chief AI Officer , Five C Network **University/ Company :** Five C Network, Bangalore **Address :** India, 560076.
	Resource Person 18 - Details **Name :** DrC Senthil Pari **Designation :** professor, Multi media University **University/ Company :** Multi media University , Malaysia **Address :** Malaysia , 626126.
	Resource Person 19 - Details **Name :** Jenicka S **Designation :** Associate Professor Grade 1, School of Computer Science and Engineering **University/ Company :** VIT, Vellore **Address :** India, 632014.
	Resource Person 20 - Details **Name :** Dr D Devakumar **Designation :** Professor, Department of Nuclear medicine **University/ Company :** Christian medical College, Vellore **Address :** India, 632002.
	Resource Person 21 - Details **Name :** ANANDAKUMAR D **Designation :** AI Engineer, FiveCnetwork **University/ Company :** FiveCnetwork, Bengaluru **Address :** India, 560076.
	Resource Person 22 - Details **Name :** Kirthi Yuvaraj **Designation :** Chief Technical Officer, Five C network **University/ Company :** Five C network, Bengaluru **Address :** India, 560076.

Resource Person's Profile :

1. Profile of Sumit K mandal

Sumit K. Mandal is currently an assistant professor in Indian Institute of Science, Bangalore. He completed his PhD from University of Wisconsin-Madison. He received best paper award from ACM TODAES in 2020 and ESweek in 2022. His research interest is energy efficient communication architecture for machine learning applications with emerging technologies.

2. Profile of Dr Snekhalatha U

Dr. U. Snekhalatha is a Professor and Head of Biomedical Engineering at SRMIST, Tamil Nadu, with 21 years of teaching and 15 years of research experience. She holds a PhD in Biomedical Engineering (2015) from SRMIST, an M.E. in Medical Electronics, and a B.E. in ECE. Her research covers biomedical signal processing, image processing, and AI. She has 130 publications, authored a book, filed 8 patents, and serves as an editorial board member for Scientific Reports and IET Image Processing.

3. Profile of Dr S P Angeline Kirubha

Dr. Angeline Kirubha S. P. is an Associate Professor in Biomedical Engineering at SRM Institute of Science and Technology, with expertise in medical image analysis, bio-signal processing, and deep learning for healthcare applications. She has published 37 research papers, earned 180 citations, and holds an h-index of 8. Her recent work includes innovative developments like a myopia tracker and smart healthcare devices. Dr. Kirubha has been with SRM since 2007.

4. Profile of Prateek Goyal

Prateek is a seasoned professional with over a decade of industry experience in the field of data science and technology. He earned his Bachelor of Technology (B.Tech) in Computer Science from Bharat Vidyapeeth, Pune, graduated in 2014. Furthering his expertise, he completed a Master of Science (M.Sc) in Data Science with a specialization in Machine Learning and Artificial Intelligence from MIchigan USA in 2020. Throughout his career, he has developed a robust skill set that includes Machine Le

5. Profile of Dr P Anandhakumar

Dr. ANANDHAKUMAR is a Professor in the Department of Information Technology at Anna University, Chennai. He has completed his doctorate in the year 2006 from Anna University. He has produced 20 PhD s in the field of Image Processing, Cloud Computing, Multimedia technology and Machine Learning. His ongoing research lies in the field of Digital Twin Technology, Machine Learning and Artificial Intelligence. He has published more than 150 papers indexed in SCI, SCOPUS, WOS etc. He has more than 27.

6. Profile of Dr Subramanian R

Dr Subramanian R holds a Mathematics degree from American College, Madurai 1982, and a PG and Ph.D. from IIT Delhi 1984, 1989. A professor of Computer Science since 1989, he has guided 9 Ph.D. scholars and currently supervises 4 in areas like Robotics and Blockchain. With 30 years in Machine Learning and Robotics, he has published 60 papers, led an AICTE project, and served as HoD, Dean, and Technical Director at Kalasalingam University.

7. Profile of Dr Rohit Kumar

Dr. Rohit Kumar, a seasoned tech leader with 15 plus years of experience, is passionate about driving innovation and building high-performance teams. His expertise in Big Data, Machine Learning, NLP, and Data Analysis has led him to spearhead the development of cutting-edge Data and AI platforms for Drug Discovery, focusing on Vaccines and Therapeutics

8. Profile of Dr C S Saravana Kumar

Dr. C.S. Saravana Kumar, a Senior Software Architect at Bosch, holds a Ph.D. in Semantic Web Mining. He has a strong academic background, having graduated with distinction from Anna University and PSG College of Technology. With 14 years of experience in IT, he has worked for companies like Intel, Cognizant, and Bosch. Dr. Kumar is actively involved in research, with publications in top journals. He is currently pursuing a postdoc in Quantum AI at Lincoln University, Malaysia.

9. Profile of Dr Sathya Subramaniam

Dr Sathya Subramaniyam is a senior professor in the department of physiology, Christian medical college, vellore. She completed several funded projects and her current interest is to work in non-invasive vital measurements.

10. Profile of Dr John Roshan

Dr. John Roshan Jacob is a distinguished cardiologist at Christian Medical College (CMC), Vellore, specializing in interventional and clinical cardiology. With extensive experience in diagnosing and managing complex cardiovascular diseases, he is skilled in performing advanced procedures such as coronary angiography, angioplasty, and stenting. Dr. Jacob is also actively involved in academic teaching, mentoring postgraduate students, and contributing to cardiology research

11. Profile of Dr Jeyanth Rose

Dr. Jeyanth Rose is a senior consultant in the Department of Ophthalmology at Christian Medical College (CMC), Vellore, specializing in cataract surgery, glaucoma management, retinal disorders, and corneal transplants. With extensive experience in both clinical practice and academia, he has been instrumental in training postgraduate students and advancing research in ophthalmology. Dr. Rose has authored numerous publications in peer-reviewed journals

12. Profile of Dr Hannah

Hannah works as Wellcome-DBT India Alliance Early Career Fellow at Christian Medical College Vellore after completing her post doctoral fellowship at school of medicine at University of Washington. She works in the implementation of AI in the hospital. She has many publications in reputed journal

13. Profile of Dr Venkatraman

Dr VENKATRAMAN is a doctorate in Medical Imaging and Instrumentation. He associated with Bio Vision Medical Systems, Chennai as Managing Partner. He has been awarded with the First Generation Entrepreneur Award by Swavilambi Bharath Abhyan, Government of India. His contributions were also recognised during the Silver Jubilee Celebrations of the Centre for Medical Electronics, College of Engineering, Guindy

14. Profile of K Kanagaraj

Kanagaraj is working as Business Development Manager - South at AD Instruments South Asia. He is Interested in the field of Biomedical with over 18 years experience in handling medical equipment, Scientific teaching and research products for sales, application support and service.

15. Profile of ANANDAKUMAR D

He is the Chief Product and Data Officer at 5C Network, India's leading AI in Radiology startup. He has 20 years experience in building data-driven products. He has a masters in Systems Statistics from University of Maryland. He is an avid follower of cricket and NBA. He loves to read and play chess when he is not building AI

16. Profile of Dr Malaya Kumar Nath

Malaya Kumar Nath completed B. E. in Electronics and Telecommunication Engineering from BPUT Odisha, India, and M. Tech in Electronics and Communication Engineering (Signal Processing) from the Indian Institute of Technology Guwahati, India. He completed his Ph.D. on Signal Processing from the Indian Institute of Technology Guwahati. His area of research includes machine learning and biomedical image processing. He has published 27 papers and has an h-index of 20

17. Profile of Bhargava Subramaniam

Bargava Subramanian is the Chief Product and Data Officer at 5C Network, India's leading AI in Radiology startup. He has 20 years experience in building data-driven products. He has a masters in Systems Statistics from University of Maryland. He is an avid follower of cricket and NBA. He loves to read and play chess when he is not building AI

18. Profile of DrC Senthil Pari

Dr. Senthilpari had a post-graduated in M.Sc. (Applied Electronics) and M.E (Material Science) at National Institute of Technology, Tiruchirappalli. He joined as a lecturer at Multimedia University (Malaysia) in 2005, and he obtained Ph.D. Degree from Multimedia University in 2009. His work on the VLSI Design and simulation analysis of new hardware circuits. Dr. Senthilpari invited committee members to various international conferences.

19. Profile of Jenicka S

Jenicka S completed her under graduation in Computer Science and Engineering at Thiagarajar College of Engineering, Madurai, Tamil Nadu, India in 1994. Later she finished her post-graduation in the same discipline in 2009 from Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu. She was awarded Ph.D in the same discipline in 2014. She is a recognized research supervisor in Vellore Institute of Technology, Vellore, Tamil Nadu for guiding Ph.D research Scholars.

20. Profile of Dr D Devakumar

Dr Devakumar is a professor in the department Nuclear Medicine of Christian Medical College Vellore. He is interested to develop clinically suitable methods for pre-processing and segmentation of PET, MRI, SPECT and CT for radiotherapy treatment planning and surgical planning.

21. Profile of ANANDAKUMAR D

Product manager at 5C network which is India's largest AI powered digital radiology platform, where he leads AI-driven solutions to streamline teleradiology workflows and significantly reduce report turnaround times. Conceptualized and built the products that leverage AI to streamline clinical delivery improve operational efficiency and enable international growth in markets across Asia and latin america.

22. Profile of Kirthi Yuvaraj

Software architect with extensive experience in product architecture, team building, and scaling for startups, I have a track record of effectively communicating complex technical requirements to non-technical stakeholders. With a strong leadership background, I have led development teams on enterprise-wide projects and consistently delivered results.

Artificial Intelligence (AI) is transforming numerous sectors such as healthcare, robotics, and the Internet of Things (IoT), providing innovative solutions to complex problems and accelerating progress. Its impact on these industries has led to significant advancements, making AI an essential tool for solving modern challenges. As AI continues to evolve, there is a growing demand for professionals equipped with the knowledge and skills to apply AI technologies effectively across various domains. To address this need, a 5-day Faculty Development Program (FDP) entitled "Emerging Frontiers in AI: From Robotics to Healthcare and IoT Applications" has been designed to empower educators and researchers. The program's primary goal is to provide participants with comprehensive knowledge about AI, helping them understand its applications, opportunities, and challenges. By doing so, the FDP aims to enable the faculty to stay at the forefront of AI-driven innovation and make meaningful contributions in their respective fields. During the program, participants will gain exposure to cutting-edge AI techniques and tools, with a focus on real-world applications in healthcare, robotics, LLM, GenAI and IoT. They will explore AI's role in improving patient care, enhancing medical diagnostics, advancing robotic systems, and optimizing IoT devices. Through hands-on sessions, case studies, and expert-led discussions, attendees will develop a deeper understanding of AI's capabilities, allowing them to leverage its potential in practical, impactful ways. By the end of the FDP, participants will be better equipped to integrate AI into their research, teaching, and professional practices, ensuring that they remain upto date in this rapidly advancing field.

Python, SCIKIT Learn, Jupyter Notebook,

| Coordinator's: | Prof. NAVEENKUMAR J 18849 - Associate Professor Grade 2 - SCOPE |
| | Prof. JOSHVA DEVADAS T 16700 - Professor Grade 1 - SCOPE |