NITTE (Deemed to be University) | **NMAM INSTITUTE OF TECHNOLOGY**

Off Campus Centre Of Nitte (DU)
Nitte, Karkala Taluk, Udupi District, Karnataka 574110
Ph: +91 8258-281 263/ 281 248   Web: nitte.edu.in/nmamit

Department of Artificial Intelligence
and Machine Learning
organizing a 6-day Faculty Development program on

ENVISIONING THE FUTURE:
DEEP DIVE INTO ADVANCED ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING TECHNOLOGIES FOR SOCIETY

Date : 21-07-2025 To 26-07-2025

About Nitte (Deemed to be University)

Nitte (Deemed-to-be University) has its roots in a group of Institutions established by the Nitte Education Trust. The Trust was established in 1979 by one of India's respected Statesmen, Late Justice KS Hegde, Supreme Court Judge and Speaker of Lok Sabha, with the mission of empowering rural youth through quality education and healthcare. The Trust has established 36 institutions spread in three campuses at Nitte, Mangalore and Bangalore. It offers education in diverse areas of learning including health professions education, engineering, management, humanities, general education, vocational training, and school/pre- university education. The University offers a total of 160+ programs, in the disciplines of medicine, allied health sciences, dentistry, pharmacy, nursing, physiotherapy, speech and audiology, biological sciences, media & communication and Architecture. It has 27,000 students, 5,500+ faculty and 1 lakh alumni. The University campuses are spread over 52 acres in Deralakatte-Paneer areas of Mangalore.

About NMAMIT, Nitte

NMAM Institute of Technology (NMAMIT), Nitte was established in 1986 and approved by the All India Council for Technical Education, New Delhi, is a constituent college of Nitte (Deemed to be University), Mangaluru. NMAMIT is ranked in the rank band 151-200 in the National Institutional Ranking Framework (NIRF) 2024 by MoE, GoI among the engineering colleges in India. NMAMIT has active collaborations with several international universities and organizations for faculty and student exchanges, research, internships, and placements. The institute offers B.Tech, M.Tech, MBA, MCA, and doctoral programs. NMAMIT is located in a vibrant, serene, green campus at Nitte spread over 125 acres and is nestled in the Western Ghats of Southern India on the way to the Kudremukh ranges.

About the Department

The Department of Artificial Intelligence and Machine Learning is dedicated to advancing the frontiers of AI and Machine Learning research, education, and application. Bachelor of Technology in Artificial Intelligence & Machine Learning equips students with the skills and knowledge required to analyse, design and control intelligent systems. This program enables students to gain in-depth understanding of fundamental subjects in Computer Science and deals with technologies like image processing, machine learning, natural language processing, neural networks, deep learning, reinforcement learning and big data analytics. Centre of Excellence in AI and ML is equipped with the latest computers and state of the art amenities facilitating research work and projects for the students and research scholars in addition to regular curricular activities.

About the FDP

The Faculty Development Program titled "Envisioning the Future: Deep Dive into Advanced Artificial Intelligence and Machine Learning Technologies for Society" is designed to empower faculty members with the knowledge, tools, and insights needed to stay at the forefront of AI and ML advancements. This FDP bridges the gap between theoretical foundations and real-world applications, enabling educators to enhance both their research capabilities and teaching methodologies.

Through expert-led sessions, hands-on insights, and interdisciplinary perspectives, the program aims to:

- Equip faculty with up-to-date AI/ML concepts, trends, and emerging technologies.
- Enable the integration of AI-related content into curriculum and classroom instruction effectively.
- Foster research innovation by exposing participants to real-world problem-solving in healthcare, cybersecurity, computer vision, and more.
- Support faculties in guiding students on ethical AI development and socially impactful applications.
- Build capacity for collaborative, interdisciplinary, and industry-relevant AI/ML initiatives.

Objectives & Outcomes:

- Build a strong foundation in core AI/ML concepts and mathematical underpinnings like linear algebra and computer vision.
- Explore advanced applications of AI in domains such as healthcare, cybersecurity, auditory scene analysis, and auto image segmentation.
- Understand the importance of explainable and interpretable models for developing ethical and transparent AI systems.
- Gain insights into the role of emerging hardware and system architectures in supporting future AI/ML advancements.
- Enhance research and teaching capabilities by integrating cutting-edge AI technologies for real-world societal impact.

Chief Patron

Shri. N. Vinaya Hegde President, Nitte Education Trust & Chancellor, Nitte (Deemed to be University)

Patron

Prof. (Dr.) M S Moodithaya, Vice-Chancellor of Nitte (Deemed to be University).

Organizing Committee:

Chairman:

Dr. Niranjan N. Chiplunkar, Principal, NMAMIT, Nitte

Convenor:

Dr. Sharada U. Shenoy, Professor & H.O.D. Dept. of AIML, NMAMIT, Nitte

FDP Coordinators

Dr. Rashmi Adyapady R., Assistant Professor-III, Dept of AIML, NMAMIT, Nitte

Mr. Mahesh B. L., Assistant Professor-II, Dept of AIML, NMAMIT, Nitte

Address for Communication

Organizing Committee

Dr. Sudesh Rao, Assistant Professor-III, Dept of AIML, NMAMIT, Nitte

Ms. Disha D. N., Assistant Professor-II, Dept of AIML, NMAMIT, Nitte

Ms. Swathi Pai, Assistant Professor-II, Dept of AIML, NMAMIT, Nitte

Ms. Sneha Shetty R., Assistant Professor-II, Dept of AIML, NMAMIT, Nitte

Ms, Smitha, Assistant Professor-II, Dept of AIML, NMAMIT, Nitte

Resource Persons:

- Dr. Sharada U. Shenoy, Professor & H.O.D, Dept. of AIML, NMAMIT, Nitte, Karkala Taluk, Udupi, Karnataka, India.
- Dr. Mohammed Javed, Assistant Professor, Dept. of IT, IIIT Allahabad, Prayagraj, U. P. India
- Dr. Vasudevan A. R., Assistant Professor, Dept of CSE, NIT Calicut, Kozhikode, India.
- Dr. Vidhya Kamakshi, Assistant Professor, Dept of CSE, NIT Calicut, Kozhikode, India
- Dr. Routhu Srinivasa Rao, Data Scientist, CureBay, Bhubaneswar, India
- Dr. Manjunath Mulimani, Post-Doctoral Research Fellow, Machine Listening Group Computing Sciences, Tampere University, Hervanta Campus/Tietotalo, Tampere, Finland.
- Dr. Shubham Dodia, Research Scientist, Senior Manager, Leading Research and Development Wing in AI, CAMS, Chennai, India
- Dr. Spoorthy V., Assistant Professor, Dept. of AIML, CSPIT, CHARUSAT, Anand, Gujarat, India.
- Dr. Rashmi Laxmikant Malghan, Assistant Professor, School of Computer Engineering, MIT, Manipal, Udupi, Karnataka, India.
- Dr. Sadhana Rai, Assistant Professor, Dept. of, CSE (AI&ML), Sahyadri College of Engineering & Management, Mangaluru, Dakshina Kannada, Karnataka, India.

Dr. Sharada U. Shenoy specializes in machine learning and computer networks, with a strong background in multimedia communication over Ad hoc networks. She holds a Ph.D. in Computer Science and Engineering and has over 27 years of academic and research experience. She is currently serving as the Head of the Department of Artificial Intelligence and Machine Learning at NMAM Institute of Technology, Nitte. Her research interests include intelligent communication systems, machine learning applications, and network protocols in dynamic environments.

Dr. Mohammed Javed specializes in image processing, pattern recognition, and compression of images and videos. He holds a Ph.D. in Computer Science from the University of Mysore, where his research focused on text detection in compressed document images. He is currently working as an Assistant Professor in the Department of Information Technology at IIIT Allahabad.

Dr. Vasudevan A. R. specializes in computer Networks, Network Security, Cyber Security, IoT. He holds a Ph.D. from National Institute of Technology Tiruchirappalli. He is working as an Assistant Professor in the Department of Computer Science and Engineering, NIT Calicut.

Dr. Vidhya Kamakshi specializes in Explainable Artificial Intelligence (XAI) with a strong foundation in Deep Learning, Machine Learning, and Computer Vision. Her Ph.D. research focuses on developing concept-based explanation frameworks for image classification models, aiming to improve the transparency, interpretability, and accountability of CNNs. She holds a Ph.D. from IIT Ropar. She is working as an Assistant Professor in the Department of Computer Science and Engineering, NIT Calicut.

Dr. Routhu Srinivasa Rao specializes in applying AI and data science to healthcare, particularly in predictive analytics and medical imaging. He holds a Ph.D. in Computer Science and Engineering from NITK Surathkal, with research focused on cybersecurity. He has served as a Postdoctoral Fellow at Chosun University, South Korea, and as Associate Professor at GITAM University. His research interests include information security, deep learning, and AI applications in healthcare. Dr. Rao is currently working as a Data Scientist at CureBay.

Dr. Manjunath Mulimani specializes in audio and speech signal processing, deep learning, and incremental learning. He holds a Ph.D. in Computer Science and Engineering from NITK Surathkal, with research focused on speech signal processing and big data analytics. He is currently serving as a Postdoctoral Research Fellow at Tampere University, Finland. He has also worked as a Summer Research Fellow at IIT Delhi and the Indian Institute of Space Science and Technology, Trivandrum. His research interests include deep learning for audio processing, scalable learning systems, and intelligent data-driven applications.

Dr. Shubham Dodia specializes in medical imaging, NLP, and deep learning, with a research focus on lung cancer detection and cybersecurity. He holds a Ph.D. in Computer Science and Engineering from NITK Surathkal and currently works as a Research Scientist at CAMS Chennai. He has previously served as Assistant Professor at VIIT Pune and has received multiple academic honors, including gold medals and best paper awards.

Dr. Spoorthy V. specializes in auditory scene analysis and NLP using deep learning. She holds a Ph.D. in Computer Science and Engineering from NITK Surathkal and is currently an Assistant Professor at CHARUSAT, Gujarat. Her work focuses on sound event detection, acoustic scene classification, and robust AI models.

Dr. Rashmi Laxmikant Malghan specializes in data science and AI with a strong emphasis on interdisciplinary innovation. She holds a Ph.D. from NITK Surathkal and currently serves as an Assistant Professor at Manipal Institute of Technology, MAHE. Her research areas include machine learning, computer vision, sports analytics, behavioral modeling, and green computing.

Dr. Sadhana Rai specializes in computer architecture, with a research focus on hybrid main memory systems. She holds a Ph.D. in Computer Science and Engineering from NITK Surathkal. Her academic interests span memory systems, computer organization, and performance optimization in modern computing architectures.

Contents of the FDP

This Faculty Development Program is designed to provide participants with in-depth exposure to both foundational and advanced aspects of Artificial Intelligence and Machine Learning, with a focus on their societal impact. The program features the following sessions:

- Basics of Linear Algebra with Computer Vision Introduction to essential mathematical tools for developing vision-based AI systems.
- AI and ML Essentials: Pioneering the Next Tech Revolution A comprehensive overview of core AI/ML principles, tools, and emerging trends.
- Cybersecurity and Machine Learning-based Countermeasures Application of AI in detecting and mitigating cyber threats through intelligent systems.
- Explainable and Interpretable Models Building transparent and trustworthy AI models for ethical decision-making.
- Enhancing Healthcare with AI: From Imaging to Interpretation Leveraging AI for medical diagnostics, imaging analysis, and healthcare innovations.
- Auditory Scene Analysis using Deep Learning Techniques for analyzing and understanding complex auditory environments.
- Computer Architecture: A Future Perspective for ML and DL Exploring next-generation hardware and system designs optimized for AI workloads.
- Auto Image Segmentation Automated methods for segmenting visual data, crucial for medical imaging, object detection, and scene understanding.

Schedule of the FDP

Day/Date	Session I 9.30-10.30 A.M		Session II 11.00-12.30 P.M.		Session III 13.30-14.45 P.M.		Session IV 15.00-16.15 P.M.
Day 1 21-07-2025	Inauguration		**Dr. Mohammed Javed** Asst. Professor, Dept. of IT, IIIT Allahabad **Basics of Linear Algebra with Computer Vision**		Hands-on **Basics of Linear Algebra with Computer Vision**		**Dr. Sharada U. Shenoy** Professor & HoD, Dept. of AIML, NMAMIT, Nitte **AI and ML Essentials: Pioneering the Next Tech Revolution**
Day 2 22-07-2025	**Dr. Rashmi Laxmikant Malghan** Assistant Professor, School of Computer Engineering, MIT, Manipal **Auto Image Segmentation**		Hands-on **Auto Image Segmentation**		**Dr. Routhu Srinivasa Rao** Data Scientist, CureBay, Bhubaneswar **Phishing Attacks and their Countermeasures**		Hands-on **Phishing Attacks and their Countermeasures**
Day 3 23-07-2025	**Dr. Sadhana Rai** Asst. Professor, Dept. of, CSE, Sahyadri College, Mangaluru **Computer Architecture a Future Perspective for ML and DL**	TEA BREAK [10.30-11.00 A.M.]	Hands-on **Computer Architecture a Future Perspective for ML and DL**	LUNCH BREAK [12.30-13.30 P.M.]	**Dr. Shubham Dodia** Research Scientist, CAMS, Chennai **Enhancing Healthcare with AI: From Imaging to Interpretation**	TEA BREAK [14.45-15.00 P.M.]	Hands-on **Enhancing Healthcare with AI: From Imaging to Interpretation**
Day 4 24-07-2025	**Dr. Spoorthy V.** Asst. Professor, Dept. of AIML, CSPIT, CHARUSAT, Gujarat **Auditory Scene Analysis using Deep Learning**		Hands-on **Auditory Scene Analysis using Deep Learning**		**Dr. Manjunath Mulimani** Post-Doc Research Fellow, Tampere University, Finland **Auditory Scene Analysis using Deep Learning**		Hands-on **Auditory Scene Analysis using Deep Learning**
Day 5 25-07-2025	**Dr. Vasudevan A. R.** Asst. Professor, Dept of CSE, NIT Calicut **Cyber Security and Machine Learning based Countermeasures**		Hands-on **Cyber Security and Machine Learning based Countermeasures**		**Dr. Vidhya Kamakshi** Asst. Professor, Dept of CSE, NIT Calicut **Session on Explainable and Interpretable models**		Hands-on **Explainable and Interpretable models**
Day 6 26-07-2025	MCQ, Feedback and Interactions		Valedictory				

Registration Fee:

Faculty affiliated with Nitte DU- Free

Others- Rs 1000/-

Last Date for Registration: 15-07-2025

Registration and Payment Link:

https://forms.gle/kxsWR6n57nKHhEpv7

Nitte Deemed to be University	
Name Of the Account	Nitte Deemed to be University
Account No	02452200042424'
Name and Address of the Bank	Canara Bank, ABSMIDS Branch, Deralakatte
IFSC Code	CNRB0010245
MICR Code	575015123
Email	cb10245@canarabank.com
NDU GST No	29AABTN0060A1Z5
NDU PAN	AABTN0060A

The program has limited capacity. Registration will be on a first-come, first-served basis.