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Dr. V. Ashok Kumar

Professor & HoD.

Dr. M. Jayamanmadha Rao

Professor

Dr. M. S. R. Naidu
Dr. Kiran Kumar Patro

Professor & Asst. HoD.
Assistant Professor

Dr. E. Jaya
Sri. K. Krishnam Raju
Sri. M K Linga Murthy

Assistant Professor
Assistant Professor
Assistant Professor

- The present FDP is expected to benefit engineers, scientists, researchers and academicians who are working / teaching / studying in the area of the relevant / allied discipline

- Fill the below google form for registration or scan the QR code.

- **No Registration Fee.**
<https://forms.gle/wdifj1hPoA3TPfoS6>



- E-certificates will be awarded to participants who attend over **80%** of the FDP sessions and successfully complete all assigned online assessments.
- Participants will receive the recordings of the sessions.

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One Week Online

Faculty Development Program (FDP)

On

AI and IoT for Next Generation Smart

Healthcare Systems

(From 15th to 20th December, 2025)



Organized by

Department of Electronics and
Communication Engineering

**ADITYA INSTITUTE OF TECHNOLOGY
AND MANAGEMENT (AUTONOMOUS)**

(Approved by AICTE, New Delhi and Affiliated
to JNTUGV, Vizianagaram)

**Tekkali, Srikakulam Dist., Andhra Pradesh,
India**

ABOUT THE INSTITUTE

Sri Aditya Educational Society (ESTD-2000) started a Technical Institution to impart highest quality and standards in the north coastal A.P. under aegis of eminent academicians, educationists and professionals in the name of Aditya Institute of Technology and Management in 2001 in Tekkali. It is located in an extent of 50 acres of clean, green and serene area and offering 9 UG engineering programs along with various PG programmes in M.Tech, MBA and MCA. The college is led by an experienced management team and maintains high academic standards through qualified faculty, strong research culture, and modern infrastructure. AITAM has been ranked in the NIRF for two consecutive cycles, reflecting its sustained national recognition. The institute provides state-of-the-art laboratories, a rich digital library, hostel facilities and a supportive environment for holistic learning to get strong placements and conferred accreditations like NBA, NAAC as well. AITAM promotes innovation, good governance and student development through collaborations, incentives and continuous training initiatives.

ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering (ECE) in B.Tech was established in the year 2001 with an initial intake of 60 students. Now the intake was increased to 300 and a post graduate M. Tech program in the specialization of VLSI System Design is also offered. The department was accredited by National Board of Accreditation (NBA) under tier-I in 2021 & 2024. Both the B.Tech. and M. Tech. programs were duly approved by AICTE and affiliated to JNTUGV. The department has been growing stronger each year with JNTUGV Research Centre and several projects being supported by funding agencies such as AICTE, DST, UGC and CSIR to promote research, innovations.

ABOUT THE PROGRAMME

This one-week online Faculty Development Programme aims to equip faculty and researchers with the essential knowledge and practical skills needed to apply AI and IoT technologies in healthcare. By integrating theory, hands-on training, and real-world applications, participants will be prepared to design innovative solutions, develop funding projects and contribute high-quality research to the evolving field of intelligent healthcare systems.

OBJECTIVES

- To provide a strong foundation on AI, ML and DL techniques in healthcare data analytics.
- To introduce participants to biomedical signal and image processing concepts along with AI-based classification.
- To demonstrate IoT and Edge-AI integration for real-time healthcare data analysis and decision-making.
- To familiarize with Explainable and Trustworthy AI (XAI) techniques for clinical model interpretability and reliability.
- To promote research, innovation, and proposal writing skills in healthcare systems.

OUTCOMES

- ✓ Understand the architecture and components of AI- and IoT-based healthcare systems.
- ✓ Design and prototype intelligent healthcare solutions using sensors, microcontrollers and AI algorithms.
- ✓ Apply data-driven techniques (ML/DL) for disease prediction, diagnosis and patient monitoring.
- ✓ Gain hands-on exposure to AI and IoT development tools, simulation platforms and cloud integration.
- ✓ Identify emerging research opportunities in AI-assisted healthcare and telemedicine.

TOPICS TO BE COVERED

- **AI in Healthcare:** Overview of AI/ML/DL in healthcare, data preprocessing, model interpretability.
- **Biomedical Signal & Image Processing:** ECG, EEG, EMG acquisition and denoising, feature extraction and classification using AI along with Image Processing using CNN/U-Net architectures.
- **IoT and Edge AI in Healthcare:** Sensor interfacing, RPI based data acquisition, real-time analytics and Voice pathology detection.
- **Explainable and Trustworthy AI:** XAI techniques (Grad-CAM, LIME, SHAP) for clinical model interpretation and LLM.
- **Mental Health Diagnosis using NLP:** Overview of NLP, Sentiment and emotion recognition from text and social media.
- **CPS in Healthcare:** Role of CPS and Optimization Strategies in the Healthcare Sector and FPGA driven innovation.

RESOURCE PERSONS

Dr. Samit Ari, NIT Rourkela

Dr. Sourangshu Bhattacharya, IIT Kharagpur

Dr. Allam Jaya Prakash,

UAE International University

Dr. NVPS Rajesh Kandala, VIT-AP

Dr. Bala Chakravarthy Neelapu, NIT Rourkela

Dr. B. Naresh Kumar Reddy, NIT Tiruchirapalli

Dr. Hemant Sharma, NIT Kurukshetra

Mr. Sunil Kumar Potnuru, Staff Engineer,

Data Science – Kenvue, USA

Dr. Nettimi Satya Srinivas, Sr. FPGA Design Engineer, DEAL, DRDO, Dehradun

Dr. Venkata Phanikrishna B, IIIT Vadodara

Dr. Kiran Kumar Patro, AITAM-Tekkali

Dr. K. Ravi Kumar, MVGRCE, Vizianagaram

Dr. D. Harihara Santosh, AITAM-Tekkali