

Workshop Outcomes:

- Students will gain multi-domain exposure across AI, IoT, ML, DL, AWS Cloud.
- Develop the ability to build end-to-end intelligent systems integrating hardware, software, data, and cloud.
- Improve practical skills in coding, sensor interfacing, cloud deployment, ML/DL workflows, and Gen AI usage.
- Enhance problem-solving, innovation, and project-building capabilities suitable for engineering applications.
- To Become industry-ready with foundational skills required for a IoT, Cloud Engineering.

Workshop Objective:

The primary goal is to provide students with a holistic understanding of how separate technology stacks—AI, IoT, Machine Learning, and Cloud Computing—converge to create "end-to-end intelligent systems".

Organizers

CHIEF PATRON

Prof. T. KISHEN KUMAR REDDY
Vice-Chancellor, JNTU Hyderabad

PATRONS

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Rector, JNTUH
Dr. K. VENKATESHWARA RAO
Registrar, JNTUH

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CO-CHAIRMAN

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Associate Professor of EEE & Vice Principal

CONVENER

Dr. K. SHAHU CHATRAPATI
Professor & Head, Dept. of CSE.

ORGANIZING COMMITTEE

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Sri. P SREENIVASA RAO, Associate Professor, Dept. of CSE
Sri. O. RAJU, Assistant Professor(C), Dept. of CSE
Sri. T. VENKATESH, Assistant Professor(C), Dept. of CSE

STUDENT COORDINATORS

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
UNIVERSITY COLLEGE OF ENGINEERING JAGTIAL
(Accredited by NAAC: A+ Grade, Autonomous)

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

Organizes

a Three Days Workshop on

**"Industry 4.0 Essentials: Hands-on
Training in AI, ML, IoT and AWS"**

(05-03-2026 to 07-03-2026)

Last Date for Registration

"04-03-2026"

For more Details visit:

www.jntuhcej.ac.in

~ "In technology, continuous learning is the fuel that ignites innovation and propels progress"

Technologies to be Covered in this Workshop :

AI, GenAI Internet of Things(IoT), Sensor Interfacing, Machine Learning, Cloud (AWS)



Day-1: AI

- Introduction to AI
- Introduction to Gen AI
- History & Evolution of AI and Gen AI
- AI in Daily Life
- Introduction to LLM
- Introduction to Prompt Engineering
- AI-Opportunities & Ethics

IoT Foundations + Sensor Interfacing

- Introduction to IoT, Applications in daily life
- Basic architecture:
Sensors -> Microcontrollers -> Connectivity -> Cloud
- Introduction to Microprocessors and Microcontrollers
- Started with Node MCU and Arduino IDE
- Sensor Introduction and Interfacing

Day-2: IoT Cloud+ Project Building

- Wi-Fi Connectivity
- IoT Cloud Platform (Thing Speak/Blynk)
- Building a Complete IoT Project

Project Options

1. **Smart Weather Monitoring System**
(DHT11→NodeMCU→ThingSpeak Dashboard)
2. **Smart Dustbin (Object Detection +Lid Opening)**
(Ultrasonic+Servo)
3. **IoT Home Automation System**
(Relay +Phone Control using Blynk)
4. **Smart Parking System**
(Ultrasonic +Cloud Status)
5. **IoT Fire & Gas Alert System**
(MQ-2+Buzzer+Wi-Fi Notification)

Machine Learning & Deep Learning

- Introduction to Machine Learning
- Types of Machine Learning
- ML Workflow & ML Algorithms
- Introduction to Deep Learning
- Types of Deep Learning Models
- Neural Networks & Types of Neural Networks
- Career Path & Learning Roadmap for Machine Learning & Deep Learning

Workshop Timings:

10:00 AM to 5:00 PM

Day-3: Introduction to Cloud & AWS

- Introduction to Cloud Computing
- Introduction to AWS Cloud
- Compute:
 - EC2 (Virtual Servers)
 - EBS (AttachstoragetoEC2)
- Storage:
 - S3 (Object storage)
 - Glacier (Archival)
- IAM: Users, Groups, Roles, Policies, MFA, Route53
- Scaling & High Availability:
 - Elastic Load Balancer (distribute traffic)
 - Auto Scaling (scale EC2 instances automatically)
- Networking:
 - VPC (Virtual Private Cloud)
 - Subnets (Public vs Private)
 - Internet Gateway, NAT Gateway
 - Elastic IP (Static IP)
 - VPN (basic intro)
- Backup & Restore:
 - AWS Backup
 - EBS Snapshots
- Monitoring Tools:
 - Cloud Watch (performance monitoring)

Hands-on Activities (LAB):

- Create AWS Free Tier account
- Explore AWS Management Console
- Launch & connect to EC2 instance
- Create EBS volume & attach to EC2
- Create S3 bucket → upload/download file
- Create Custom VPC with public subnet

About JNTUHUCEJ

JNTUH University College of Engineering Jagtial (JNTUH UCEJ) was established in the year 2007 as a constituent college of Jawaharlal Nehru Technological University Hyderabad. The College was approved by AICTE, New Delhi and recognized by UGC under Section 2 (f) & 12 (B) of the UGC Act, 1956. JNTUHCEJ has received THE ENGINEERING EDUCATORS AWARD from the University of Bradford, UK and Education Matters for exemplary commitment and impactful positive contribution to the education sector on 8th February, 2014. The College was accredited by NAAC with A+ in 2022. The three UG Programs : such as CSE, EEE & ME offered by the college are accredited by NBA. The College was located in a serene and green environment with well equipped and state of the art laboratories in all the departments, The faculty are highly qualified and about 90% of them are Doctorates.

Institution Vision

The aspiration is to emerge as a premier institution in technical education in producing professional and competent engineers capable of making valuable contributions in Engineering and Technology.

Institution Mission

The aspirations shall continue to fulfill With the support of diligent, assiduous, industrious, and highly qualified faculty.

- With state-of-art facilities for knowledge enrichment of students.
- Guiding and training students in conjunction with needs of industry

About The Department

The Department of Computer Science and Engineering was established in the year 2007. The Department offers UG and PG Programs. It was accredited by NBA for UG-CSE. The Department has been maintaining high standards in imparting quality education in Computer Science. The Department has state of the art infrastructure and computing equipment supported by high speed internet and wireless networks. The faculty in the department comprises of three Professors, one Associate Professor and two Assistant Professors (C). The Department faculty have more than 500 publications, filed more than 15 patents and undertaken more than 5 funded research projects. The thrust areas of research include Machine Learning, Artificial Intelligence, Image Processing, Real time operating Systems, Neural Networks, Data mining, Information retrieval and Web mining, Information Security, Networks, Operating Systems, Distributed Systems, Parallel processing and Human Computer Interaction.

Department Vision

The aspiration is to provide innovative centric professional education in Computer Science and Engineering.

Department Mission

- The aspirations shall continue to fulfill:
- Imparting quality education through innovative teaching learning practices.
 - To provide the state-of-the-art infrastructure and technology to suit academic and industry requirements
 - Inspire and Motivate the students and staff to attain professional computing and research skills for the continuous improvement.

About Workshop

This intensive three-day workshop is designed to bridge the gap between theoretical knowledge and practical application by exploring the full lifecycle of modern intelligent systems. Participants will embark on a structured journey starting with the foundations of Artificial Intelligence (AI) and Generative AI (GenAI), moving into the physical world through IoT sensor interfacing and microcontroller programming using NodeMCU and Arduino IDE. By integrating Machine Learning workflows with robust AWS Cloud infrastructure, students will learn to build, deploy, and monitor end-to-end solutions.

This workshop empowers CSE students to move beyond isolated coding and understand how hardware, data, and cloud services converge to solve complex engineering problems. This workshop provides multi-domain exposure to the high-demand fields of AI, IoT, and Cloud Engineering. The curriculum of this workshop is built around industry-standard tools and platforms. Beyond technical implementation, the program emphasizes a professional learning roadmap, covering AI ethics, Prompt Engineering, and high-availability cloud architectures.

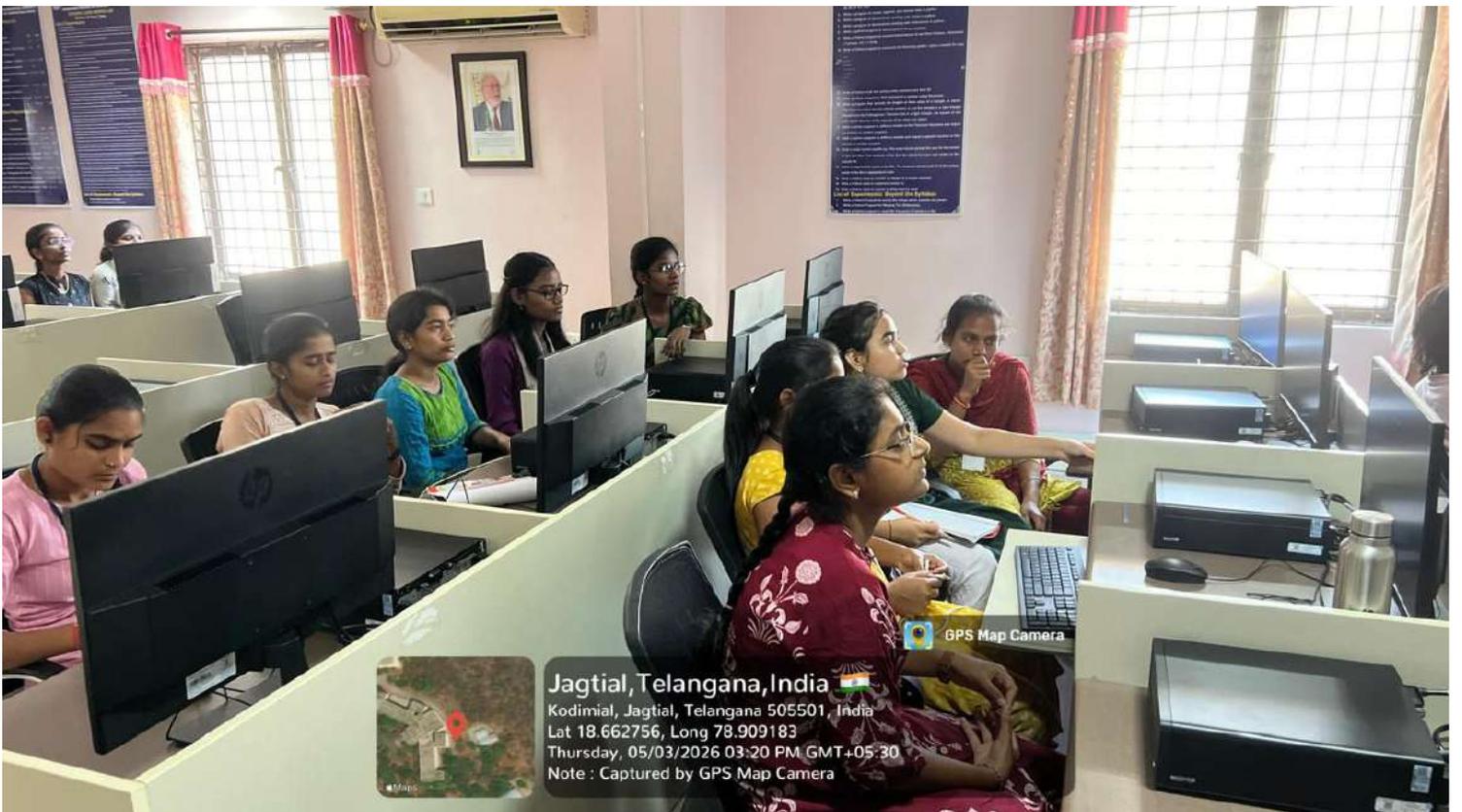
Registration Link:

<https://forms.gle/btRspgrF9Z9yq9C58>





Jagtial, Telangana, India
Kodimial, Jagtial, Telangana 505501, India
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GPS Map Camera



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GPS Map Camera



GPS Map Camera

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