

Name of Committee Members

Dr. Komala K

Mail id : komalak@ssit.edu.in

Ph no. 7022726573

Dr. Ghouse Ahamed Z

Mail id : ghouseahamedz@ssit.edu.in

Ph no. 9844888722

Prof. Sri Ramu D S

Mail id : sriamuds@ssit.edu.in

Ph no. 8105746800

Prof. Hamsalekha N P

Mail id : hamsalekhanp@ssit.edu.in

Ph no. 7338325131

Prof. Maanasa M R

Mail id : maanasmr@ssit.edu.in

Ph no. 9066788666

Principal Investigator

Prof. Gaurav Trivedi

Professor, Dept. of Electronics and Electrical Engineering

IIT Guwahati

PI of E&ICT, IIT Guwahati

Course Coordinator from IIT Guwahati,

Dr. M K Bhuyan

Professor

Dept. of Electronics and Electrical Engineering, IIT Guwahati

Venue

Sri Siddhartha Institute of Technology, Tumkur



About E&ICT Academy

Electronics and ICT Academy is an initiative of the Ministry of Electronics and Information Technology (MeitY), Govt. of India for conducting various Faculty / Research Scholar Development Programme. Academy has planned short term training programmes on fundamental and advanced topics in IT, Electronics & Communication, Product Design, Manufacturing with hands-on training and project work using the latest software tools and systems. In addition, the Academy will conduct specialized / customized training programmes and research promotion workshops for corporate sector & educational institutions.

Who Can Attend?

The Programme is open to Faculty Members and PhD Research Scholars from universities and colleges. Faculty members are requested to submit an NOC from their respective institute before attending the session.

For details of the Programme and course contents please log in to Electronics and ICT Academy website: <https://eict.iitg.ac.in>



Scan to Register



+91-361-2583182 (O)

+91-7086502139 (M)



eictacad@iitg.ac.in

eictacad@gmail.com



One Week Faculty Development Programme

on

**“A Practical Approach to AI-Driven and
Signal Processing for Smart Systems”**

08th to 12th September, 2025



Organized by
E&ICT Academy, IIT Guwahati

in association with

**Sri Siddhartha Institute of Technology,
Tumkur**





About Sri Siddhartha Institute of Technology :

Sri Siddhartha Institute of Technology (SSIT), Tumkur Karnataka. SSIT was started in the year 1979 under the ambit of Sri Siddhartha Education Society (SSES), Tumkur. Since then, it has grown with time. At present, the Institute runs 12 programmes in Bachelor of Engineering (BE) and 7 Post Graduate programmes, Several Doctoral programmes and Master of Computer Application with an annual intake of 836.

Sri Siddhartha Education Society was established in the year 1959 by shri H.M. Gangadharaiah, with the blessings of Acharya Vinobha Bhave, started with only one school, has grown consistently and has established 84 Institutions under its aegis spread across the southern part of Karnataka. The academic empire includes an Engineering College, a Medical College, a Dental College, a Nursing College, First Grade Colleges, B.Ed Colleges, Training Institutes, Sanskrit & Poly Schools, and number of high schools with a vision to take education to reach the unreached.

Salient Features of the Institute:

The campus spans 55 acres with over 33,000 sqm of built-up area, featuring advanced labs, 900+ computers, and full Wi-Fi coverage. It has a unique geodesic dome library with 67,764 volumes and access to J-Gate, DELNET, and IEEE Digital Library. Each engineering branch has dedicated computer labs with a 20 Mbps internet connection. Facilities include excellent placement and training, two boys' hostels (capacity 700), one girls' hostel (capacity 250), a Science and Technology Park, and an Entrepreneurship Development Center. Free laptops are provided to PG students, research scholars, and HODs. The staff includes 201 members (48 Professors, 25 PhDs). Amenities include a bank, post office, gym, healthcare unit, and sports ground.

Course Objectives

- ❖ To provide in-depth knowledge of AI-driven methodologies for image and signal processing.
- ❖ To demonstrate practical implementation using Python-based tools such as NumPy, OpenCV, and TensorFlow/Keras.
- ❖ To offer hands-on experience in building Machine Learning pipelines for vision and signal-based smart systems.
- ❖ To facilitate applied learning through projects involving classification, object detection, and generative AI techniques.
- ❖ To integrate theoretical concepts with practical deployment strategies in edge computing environments.

Course Outcomes

- ❖ Participants will develop both conceptual and hands-on proficiency in applying AI techniques to image and signal processing.
- ❖ Gain practical expertise in using deep learning algorithms for classification and recognition of audio-visual data.
- ❖ Acquire the ability to design and prototype smart systems leveraging AI/ML pipelines.
- ❖ Gain practical experience with tools such as NumPy, OpenCV, and TensorFlow/Keras, particularly in edge computing contexts.
- ❖ Empower faculty members with the knowledge and skills required for real-time, edge- based AI applications in image and signal processing.

Course Modules

Module 1: Fundamentals of AI and Machine Learning: Introduction to end-to-end Machine Learning pipelines, model development, and AI applications in smart systems.

Module 2: Tools and Prerequisites: Essentials of Python programming, NumPy, Matplotlib, and image processing using OpenCV.

Module 3: Fundamentals of Deep Learning: A practical approach to Artificial Neural Networks, Convolutional Neural Networks and Transfer Learning.

Module 4: Deep Learning for Edge Devices: Hands-on approach to object detection, Generative AI models, and optimization techniques for deployment on edge devices.

Module 5: Project Design and Edge Deployment: From problem formulation to deployment; addressing real-time inference challenges, evaluation metrics, and edge- specific optimizations.

Pre-Requisite

- ❖ Basic understanding of Python programming.
- ❖ Familiarity with linear algebra and probability
- ❖ Prior exposure to AI/ML concepts is recommended, but not mandatory.

Please Note:

- ❖ Registration fees includes E&ICT Academy kit bag, stationaries, 5-days lunch and high tea, evaluation participation certificate and grade certificate
- ❖ Participants have to submit UTR No. as the proof of payment while registering for the Faculty Development Programme.
- ❖ Registration Fees is refundable if the registration cancellation request is submitted before the last date of registration.

For Online Transfer

Bank Name: State Bank of India

Account Name: IIT Guwahati R and D E and ICT Academy

Account No.: 36071160089

IFSC Code: SBIN0014262

Per Day Timing:

09:30 am to 05:30 pm

Course Date:

08th to 12th September, 2025

Contact Hours for the Course:

40Hrs (Theory, Activities, Case Studies & Evaluation)

Registration Fees: Rs. 1000/- (Inclusive of GST)

Mode of payment: Online only (NEFT/RTGS/IMPS)

Last Date of Registration: 30/08/2025

Registration Link :

<https://forms.gle/KAUJD9XuYaB6CXK77>

