## Workshop Objectives

- This one-week workshop on "Microgrid & Energy Management using IoT and ML" is designed to provide learners with a comprehensive understanding of the fundamental concepts of the Internet of Things, sensors, and actuators for managing microgrids.
- The workshop will focus on real-world data handling, pre-processing, visualization, and feature engineering using core data science principles.
- Learners will also be trained to build Machine Learning-based forecasting models from scratch while working with a variety of structured datasets in the microgrid domain.
- The workshop will also cover electricity load management, electricity demand forecasting, and fault identification using ML techniques.

## Workshop Outcomes

After completion of this workshop, participants will be able to:

- Understand the Core Concepts of the Internet of Things, Data Science & ML
- Recognize the Role of IoT and ML in Microgrid & Electricity Load Management
- Implement Core Data Science Practices on Variety of Structured Datasets
- Build Real-World Data Science & ML based Projects using Microgrid and Electricity Market Datasets
- Develop Machine Learning Models from the Scratch

## Contact Details

Dr.M.Balasubbareddy
Coordinator
Mobile: +91-9885308964
Email Id: balasubbareddy_eee@cbit.ac.in

## Chief Patron

**Sri. N. Subash**
President, CBIT

## Patron

**Prof. C. V. Narasimhulu**
Principal, CBIT

## Coordinators

**Dr. M. Balasubbareddy**
Professor & HoD, Dept. of EEE

**Dr. P. Venktata Prasad**
Professor, Dept. of EEE

## Co-coordinator

**Dr. P. Kowstubha**
Associate Professor, Dept. of EEE

## Advisory Committee

**Dr. A.D. Sarma**
Advisor, R&D

**Dr. U.K. Choudhury**
Advisor, I&I

**Dr. K. Krishnaveni**
Professor, Dept. of EEE

**Dr. G. Suresh Babu**
Professor, Dept. of EEE

**Dr. T. Sudhakar Babu**
Assoc. Director, R&D

# Department of Electrical and Electronics Engineering

SPARC
Scheme for Promotion of Academic and Research Collaboration

**One Week**

## Indo-US International Workshop on IoT and ML Based Microgrid & Energy Management

**19th – 23rd February 2024**

**(Hybrid Mode)**

# Chaitanya Bharathi Institute of Technology

(Autonomous under UGC)
Affiliated to Osmania University
Kokapet (Village), Gandipet,
Hyderabad – 500075
Telangana State, India.
www.cbit.ac.in

## Chaitanya Bharathi Institute of Technology (CBIT)

CBIT is one of the premier Engineering Institutes in India, a pioneer in Telangana State, which is at the idyllic surroundings of Gandipet Lake, Hyderabad. The college offers 12 UG and 10 PG programs. It has been standing as a temple of knowledge for the past 45 years by producing more than 25,000 Eminent and skillful Graduate Engineers, who are successful in their Careers, serving all over the world. CBIT Students are prepared and perfected to secure Placements in reputed MNCs. The Institute has been accredited by NAAC – UGC with 'A++' Grade and several programs are accredited by NBA – AICTE. The UGC has granted Autonomous Status from the Academic Year 2013-14 onwards. Stringent Academic Standards, Industry Compliant Teaching Methodology, Research Projects from Private and Public Sector organizations Industries in Engineering and Management and Consultancy Practice, enabled the Institute to establish its Identity in Technical Education and is ranked as one of the best amongst Private Engineering Colleges in both the Telugu Speaking States.

## About Department

CBIT started the Electrical & Electronics Engineering UG program in 1994 and has been accredited 5 times since 2004 by NBA. The recent accreditation in 2021 is for 6 years. The intake was increased from 60 to 120 in the Academic Year 2013-14. The Department started offering a PG course in Power Systems and power Electronics in 2006 with an intake of 18 and was accredited by the NBA in the year 2016. The department has received grants worth around ₹90 lakhs from AICTE under RPS, SPARC, MODROBS, FDP, STTP, etc. The Department is offering consultancy services worth ₹21 lakhs in collaboration with Foreign Universities in Renewable Energy Systems. The Department is also certified by ISO 9001:2015. The Department is recognized as a Research Centre in 2017 by Osmania University to carry out research for the award of Ph.D. degrees.

## About Workshop

This one-week workshop on “IoT and ML Based Microgrid & Energy Management” is taking place in hybrid mode. The workshop is meant to train faculty members, Scholars, and students regarding the effective utilization of emerging technologies such as IoT and ML for handling critical Electrical Engineering Applications. The inclusion of several real-world datasets from Microgrid and Energy management domains will help learners understand the core concepts of Python-based implementations while building ML-based forecasting models. The presentations will be made by expert faculty members from world-renowned resource persons from premier institutions, and professional educators from universities abroad, viz. FAMU-FSU College of Engineering (USA), Monash University (Australia), King Fahd University of Petroleum and Minerals (Saudi Arabia), and some industry experts. Seats are limited in physical mode, and they are assigned on a first-come, first-served basis.

## Workshop Registration Link

https://forms.gle/pQbnFGNo6n6nqFPU8

## Registration Fee

Faculty Member/ Industry : **₹500**

Research Scholar / Student : **₹300**

## Online Payment Details

Acc. Name: CBIT Recurring Expenditure
Account Number: 180401001258
RTGS / NEFT IFS Code: ICIC0001804

## Resource Persons

**Dr. Sastry Pamidi**
Professor and Chair
FAMU-FSU College of Engineering Tallahassee, **USA**

**Dr. Omar Faruque**
Associate Professor
FAMU-FSU College of Engineering Tallahassee, **USA**

**Dr. Olugbenga Anubi**
Assistant Professor
FAMU-FSU College of Engineering Tallahassee, **USA**

**Dr. Peter Cheetham**
Assistant Professor
FAMU-FSU College of Engineering Tallahassee, **USA**

**Dr. Hassan Haes Alhelou**
Senior Research Fellow
Monash University, Clayton, **Australia**

**Dr. Muhammad Khalid**
Associate Professor
King Fahd University of Petroleum and Minerals, Dhahran, **Saudi Arabia**

**Dr. Jagriti Saini**
Founder, Eternal RESTEM, Chandigarh **India**

**Dr. M. Balasubbareddy**
Professor
Chaitanya Bharathi Institute of Technology, Hyderabad, **India**

**Dr. P. Venkata Prasad**
Professor
Chaitanya Bharathi Institute of Technology, Hyderabad, **India**