

Target Audience

Faculty members, Research Scholars and Lab technicians.

Venue

TT 603 & TT 704.

Registration

No registration fee. Registration shall be done on "First Come First Serve" basis only. Seats are limited to 25. The interested candidates can do online registration on or before 25th February 2022.

Registration shall be done by using the following link or by scanning the QR code below:

[CLICK HERE](https://tinyurl.com/38v33h7a)

<https://tinyurl.com/38v33h7a>



Certificate will be provided to all participants.



ADVISORY COMMITTEE

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Associate Professor & Head
Department of Embedded Technology
School of Electronics Engineering

Coordinators

Dr. R. Sujatha

Associate Professor

Dr. G. Sumathi

Assistant Professor

Dept. of Embedded Technology
School of Electronics Engineering
+91861004582, +919444884770

sujatha.r@vit.ac.in, sumathi.g@vit.ac.in



Two Days Hands-on Workshop on “IoT Programming using LoRa with Arduino Shield”

Feb 28 & Mar 01, 2022



VIT[®]

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)



Coordinators

Dr. R. Sujatha

Dr. G. Sumathi

Organized by

**Department of Embedded Technology,
School of Electronics Engineering,
Vellore Institute of Technology,
Vellore – 632014.**

www.vit.ac.in



ABOUT VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. With steady steps, we continue our march forward. We look forward to meeting you here at VIT.

ABOUT SENSE

SENSE at VIT was established for imparting state-of-the-art knowledge in Electronics and Communication Engineering and allied areas. The school has set up laboratories with excellent infrastructure in the areas of Electronics, Communication, VLSI, Embedded, Sensors and Nanotechnology. The latest simulation tools are used to cater to various specializations and are equipped with facilities for measurement, characterization and synthesis of experimental as well as theoretical results.

Students are encouraged to take up their final year projects abroad too. The School has many industry sponsored advanced laboratories for carrying research and development. MoUs with many Foreign Universities, Research Organizations and Industries facilitate student and faculty exchange. Faculty are actively involved in R&D activities and are working on research projects funded by government organisations like DRDO, ISRO (RESPOND), BRNS and agencies like DST.

ABOUT THE WORKSHOP

Internet of Things (IoT) is the inter-networking of physical devices, vehicles, buildings, and other items, embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data. This training will focus on the basic concepts of IoT and how to get started with the edge device programming using Arduino. The training will also discuss the basics of the LoRa platform and how to connect different LoRa sensors, transmit and receive sensed data using "Things Network server." During the workshop participants will develop IoT applications using sensors, Arduino shield and LoRa gateway. This workshop is planned exclusively to get hands-on with IoT edge devices programming and Gateway Setup. The workshop starts at 10:00 am and ends around 05:00 PM.

RESOURCE PERSON

Experts from Industry.

SESSION DETAILS

Day 1 : *Introduction to IoT Edge Nodes Programming*

Hands -on

- Arduino Programming and Library Installation
- Sensor Integration with Arduino
- Use case Development using Arduino
- Hardware Selection for Long range communication
- Arduino shield for Long Range (LoRa) Edge Nodes

Day 2 : *Introduction to LoRaWAN Protocols & Modules*

Hands-on

- Gateway Registration with Network Server
- Application Server Registration
- Use case development using LoRa Modules
- Things Network cloud platform
- Data Visualization and Monitoring using Application Server

