



L D College of Engineering in Collaboration with Gujarat Extension Center NITTTRB, Ahmedabad organized one week STTP on



Designing and Modelling of IoT Systems

09.09.2024 – 13.09.2024

Organized By:

National Institute of Technical Teachers Training and Research, Bhopal &
Computer Engineering Department, L. D. College of Engineering, Ahmedabad

About

L.D. College of Engineering, one of the oldest in the western region, has completed 75 years in June 2022 which attracts highest meritorious students. Our institute witnesses a tide of innovative ideas, many of them granted patents and high-end research publications. It has been ranked "Third" under the category "Colleges/Institutes (Govt. & Govt. Aided) (Technical)" in Atal Ranking of Institutions on Innovation Achievement (ARIIA) 2021, by the Ministry of Education, Government of India. L. D. College of Engineering, Ahmedabad is AICTE approved premier government engineering college with 7 NBA accredited programs in Gujarat. The institute is affiliated to GTU and administered by Department of Technical education, Gujarat State.

Computer Engineering Department, Works with the vision of achieving excellence for providing value based education in Computer Engineering through innovation, teamwork and ethical practices. Computer engineering at the L. D. college of engineering runs majorly three degree programs; the Bachelor of Engineering in Computer Engineering, a newly introduced Bachelor of Engineering in Artificial Intelligence and Machine Learning, and master's in Computer Engineering along with newly introduced honors degree program in "Minor degree in Artificial Intelligence and Machine Learning" which comprises 100 aspirants each year. The NBA accredited department is distinguished by a team of passionate academic staff with a wide range of research interests.

NITTTR, Bhopal - Extension Center, Ahmedabad, Regional Center Ahmedabad was established in 1974 and for last forty-nine years it is catering to the needs of the Gujarat State. It helps the Gujarat Technology University, Directorate of Technical Education State of Gujarat, other self-financed universities and institutes in improving quality of engineering and technical education by working as link between these organization and NITTTR Bhopal.

Short Term Training Program (STTP):

This STTP aims to empower researchers & educators with the knowledge and skills needed to incorporate data-driven insights into their research & teaching methodologies.

Rationale:

The Short Term Training Program (STTP) on Designing and Modelling of IoT Systems is a comprehensive one-week training program designed to empower educators and professionals with the knowledge and skills needed to excel in the field of IoT. Participants will gain practical experience in designing and making models of IoT applications.

In the STTP on "Designing and Modelling of IoT Systems" professionals can explore the features of various IoT technologies. This includes Wireless Sensor Networks (WSN), IoT cloud computing, IoT Research & Development (R&D), and IoT hardware technologies, IoT sensor types, actuator types, and RFID types, along with the functionalities of IoT device platforms such as Arduino, Raspberry Pi.

Objective:

Faculty members and nominated students learn about IoT and enabling technologies used in IoT, starting from the fundamentals up to the latest innovations including demonstrations of real-life use cases. The primary objective of this STTP is to equip participants with a strong foundation in IoT systems, enabling them to:

- *Learning what the Internet of Things are*
- *Exploring physical devices like Arduino and Raspberry Pi and its integration*
- *Design IoT applications*
- *Apply IoT fundamentals to solve real-life use cases.*

- *Guide students to make prototype based application in IoT in their academic and professional roles.*
- *Incorporate IoT concepts into their teaching and research.*

Who Can Attend?

- *Faculty members from educational institutions (colleges, universities).*
- *Faculty members can use the knowledge gained on IoT system, to build a curriculum and have a chance to collaborate with students on a real-life project.*
- *Students will be able to use this knowledge in their journey of innovation.*
- *Professionals from diverse fields interested in enhancing their skills in automated systems.*
- *Researchers and postgraduate students seeking to expand their knowledge in IoT system.*

Outcome:

Upon completing this STTP, participants will:

- *Possess a strong foundation in Internet of Things and understand IoT architecture*
- *Be proficient in design some of the IoT applications*
- *Have hands-on experience with popular IoT devices, Arduino and Raspberry pi.*
- *Be able to use IoT tools and techniques to solve real-world problems.*
- *Be equipped to integrate IoT concepts into their teaching or research.*

Schedule

Date/Time	10:15 am - 11:45 am	12:00 pm - 1:30 pm	2:30 pm - 4:00 pm	4:15 pm - 5:45 pm
09/09/2024	Inauguration Session	Teaching -Learning Strategies for NEP - 2020 NITTTR, Bhopal	Introduction of IoT & Design and functioning of wireless IoT Technologies Dr. Chirag Thaker	IoT: Challenges, Experimental Platforms and Recent Trends Dr. Gurang Raval
10/09/2024	IoT Security : Vulnerabilities and Attacks Dr. Hiteishi Diwanji	Understanding of Arduino Platform and interfacing of sensors and other electronic devices with Arduino Dr. Nilesh Maltare	Hands-on Session : Programming using Arduino Dr. Nilesh Maltare	Hands-on Session : IoT Project demonstration using Arduino/NodeMCU Amita Shah & Pragnesh Patel
11/09/2024	The Raspberry Pi Platform and Use of Raspberry Pi in IoT Dr. Tushar Champaneria	Hands-on Session : Programming using Raspberry Pi Dr. Tushar Champaneria	Embedded Linux for IOT system Dr. Hemal Shah	Hands-on Session : Embedded Linux for IOT system Dr. Hemal Shah
12/09/2024	Cloud Technology used in IoT, IoT Networking & Security Dr Ajay Upadhyay	Hands-on Session : Secure Cloud Services in IoT using Packet Tracer Tool Dr Ajay Upadhyay	IoT Bluetooth & Wi-Fi & AWS EC2 : Usage & Projects Demonstration Mr. Harshal Trivedi	Entrepreneurship & Start up NITTTR, Bhopal
13/09/2024	Lightweight Cryptography for IoT Dr. Payal Chaudhary	Hands-on Session : Demonstration of existing cryptography algorithms for IoT Dr. Payal Chaudhary	Advanced Research Directions in IoT Dr. H B Patel	Valedictory Session

Tea Break: 11:45 AM to 12 Noon

Lunch Break: 01:30 PM to 02:30 PM

Tea Break: 4:00 PM to 4:15 PM

Eminent Speakers

- Dr. Hiren B. Patel, Principal, Vidush Somany Institute of Technology & Research
- Dr. Hemal Shah, Project Manager, E-Infochips Private Limited
- Mr. Harshal Trivedi, Founder and CEO, Softvan Private Limited
- Dr. Ajay Upadhyay, I/C Principal, SAL College of Engg.
- Dr. Hiteishi Diwanji, Professor, IT Dept., LDCE
- Dr. Chirag Thaker, Professor, Computer Engg. Dept., LDCE
- Dr. Gurang Raval, Associate Professor, Institute of Technology, Nirma University
- Dr. Payal Chaudhary, Assistant Professor, School of Technology, Pandit Deendayal Energy University(Formerly PDPU)
- Dr. Tushar Champaneria, Assistant Professor, GEC, Modasa
- Dr. Nilesh Maltare, Assistant Professor, GEC, Modasa

Registration

Who can register:

The STTP is open to faculty members from different engineering disciplines. Participants with diverse backgrounds will enrich the program's interactions and facilitate interdisciplinary collaborations.



Registration Fees , TA & Boarding / Lodging

kindly refer <https://nitttrbpl.ac.in/files/calendar2425.pdf>

How to Register:

- **Signup and register using this link**

→ <https://erp.nitttrbpl.ac.in/poc2024/onlinemode/partiLogin.jsp?calSession=2024-2025>

- **Faculty members of Degree/Diploma courses (GoG) have to register through TNA portal also.**

Organizing Committee:

Patrons:

Prof C. C. Tripathi
Director Bhopal, NITTR Bhopal

Dr. N. N. Bhuptani
Principal, L. D. College of Engineering

Prof Sanjay Agrawal
Dean A&R, NITTRB

Convener:

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