AICTE Training and Learning (ATAL) Academy

— Sponsored —

Faculty Development Program

on

Internet of Things (IOT)

— Organized by —

Institute of Engineering & Technology, Lucknow

from 29th October -02nd November, 2020

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IIT, Roorkee

Dr. Rahul Thakur
IIT, Roorkee

Dr. Rahul Johari
GGSIPU, Delhi

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Head CSED
IET Lucknow

Coordinator

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CSED IET, Lucknow

Convener

Dr. Upendra Kumar
CSED IET, Lucknow

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Mr. Natthan Singh
CSED IET, Lucknow

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Objectives & Topics to be covered

Objectives of the course
1. To provide a forum to exchange views, ideas & the latest innovations in the field of IOT.
2. To improve faculty's ability in carrying out research in the area of IOTs.
3. To provide hands-on training to demonstrate fundamental concepts of IOTs.

Topics to be covered
- Introduction to IoTs and its applications
- IoT Hardware & Standards
- IoT Communication/Application Protocols
- Resource provisioning in Fog and Cloud
- IoT with Fog & Cloud
- Machine learning for IoT/WSNs
- Demonstration on IoT Project
- Hands-on sessions on IoT Applications
- State-of-art research in IoTs and WSNs
- Other start-of-art topics on IoT Case studies

About the Institute

The Institute of Engineering and Technology (IET) Lucknow is one of the premier government technical Institute of Engineering and Technology in Uttar Pradesh, India. It is committed to achieve quality and excellence in academic pursuits. The Institute was established in 1984. The institute was formerly affiliatedto The University of Lucknow (1984-1999), currently an autonomous institute and recognized by AICTE. The institute is a constituent college of Dr. APJ Abdul Kalam Technical University, Lucknow.
Web: www.ietlucknow.ac.in

Who Should Attend

- The programme is open to to the faculty members, scientists and engineers of relevant areas.

Registration Fee

- There is no registration fee for the participants of this program.

Conditions for Certification

- The certificates will be issued to those parcipants who have aeended the program with minimum 80% of atendance and scored minimum 60% marks in the test.
- A test will be conducted by the coordinator at the end of the program.

Registration Process

- Please note that registration of participants will be done only through the official webpage of AICTE: https://atalacademy.aicte-india.org/signup.
- No direct or other link to be provided to participants. Registration is to be done latest by 5 pm of 28-10-2020.
- Maximum 200 participants are allowed to attend.

 Note: Selected participants will be also informed via E-mail only by 8 pm of 28-10-2020. Link and online platform for attending the program will be

Important Dates

Last Date of Registration: October 28, 2020 up to 5 pm.
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Duration of Program: October 29- November 02, 2020

Institute of Engineering & Technology, Lucknow

Faculty Development Program
on
Internet of Things (IOT)

Chief Patron
Prof. Anil D. Sahasrabudhe   **Prof. Vinay Kumar Pathak**
 Chairman AICTE   **Vice Chancellor AKTU**

Patron
Prof. Vineet Kansal   **Dr. Ravindra Kumar Soni**   **Prof. H. K. Paliwal**
Pro VC AKTU   **Director ATAL Academy**   **Director IET Lucknow**

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Coordinator:
Dr. Pawan Kumar Tiwari, CSED, IET

Convenors:
Dr. Upendra Kumar, CSED, IET
Mr. Natthan Singh CSED, IET
Advisory Committee:
Prof. Manish Gaur, CAS, AKTU
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Dr. Parul Yadav, CSED, IET

Resource Persons:
Prof. D P Vidyarthi, JNU, New Delhi
Prof. S. K. Udgata, University of Hyderabad
Dr. Nagendra, University of Hyderabad
Dr. Neetesh Kumar, IIT Roorkee
Dr. Rahul Johari, GGSIP University Delhi
Dr. Rahul Thakur, IIT Roorkee
Dr. Shiv Prakash, JKIAPT, Allahabad University
Dr. Upasana Mishra, Member NCCIP, AICTE
Mr. Gaurav Sharma, STS Kanpur

Co-Convenors:
Deepa Verma
Mr. Abhay Kumar Vajpayee

ABOUT THE FDP:

The primary objective of this one-week online Faculty Development Program (FDP) on **Internet of Things (IOT)** is to enrich faculty members of Computer Science & related Engineering streams with usability of the IoTs across various real-world applications and design different application and communication protocols for IoTs. Designing the solutions for several applications using IoTs by integrating machine learning/deep learning will be elaborated. The objective is to address modern trends in the field of IoTs with real time problem solving. This FDP focuses on hands-on implementation of various algorithms to deliver practical skill to participants.

The participants are going to gain extensive details of subject knowledge along with practical knowledge. Case studies and practical examples enrich their concept in the field of IoT and it will help them to do better teaching and to conduct research activities at their institutes.

ABOUT AICTE

All India Council for Technical Education (AICTE) was set up in November 1945 as a national-level Apex Advisory Body to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner. The main objectives of AICTE are:
• Promotion of Quality in Technical Education.
• Planning and Coordinated Development of Technical Education System.
• Regulations and Maintenance of Norms and Standards. Web: https://www.aicte-india.org/

ABOUT AKTU

Dr. A.P.J. Abdul Kalam Technical University (AKTU) formerly UPTU) was established by the Government of Uttar Pradesh, on May 8, 2000. The University is affiliating in nature and its jurisdiction spans the entire state of U.P. in affiliating B.Tech., M.B.A., M.C.A., B.Arch., B. Pharma., B.H.M.C.T., M.Tech. and Ph.D. programmes in 756

colleges/institutions imparting graduate, postgraduate and doctoral level training in all government and private institutions located all over U.P. in engineering, technology, architecture, pharmacy, hotel management and catering technology as well as M.B.A. and M.C.A. programmes.

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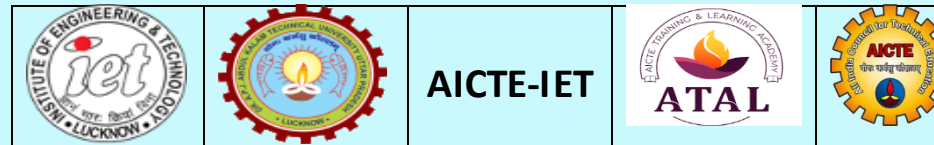
ABOUT DEPARTMENT:

Department of Computer Science & Engineering (CSED) at Institute of Engineering & Technology Lucknow (IET-L) was started since its establishment in 1984 and became the place of top-ranking students of state entrance examination (UPSEE) over past decades. The department is NBA accredited and it offers B. Tech. programme in Computer Science & Engineering and PhD programme in Computer Science & Engineering. The CSED@IET-L is a premier and dynamic center for imparting quality education and known for excellence in teaching in the field of computer science in the state of Uttar Pradesh.

Faculty Development Program

ON

Internet of Things (IOT)

AICTE-IET

29 October -02 November, 2020

Sponsored By

AICTE, New Delhi

Organized By

Department of Computer Science & Engineering

Institute of Engineering & Technology, Lucknow

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FDP on

Internet of Things (IOT)

29 October -02 November, 2020
IET Lucknow

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Minute to Minute Plan

Date	Faculty Development Program On Internet of Things (IoT-20) (29 October- 02 November, 2020)		
Date	**Schedule**		**Timing**
	Inaugural		10:00 am to 10:30 am

29-10-2020 Thursday	Session-1	Resource Provisioning in Fog integrated Cloud: A Machine Learning Approach (Prof. D. P. Vidyarthi, JNU New Delhi)	10:30 am to 12:00 pm
	Session-2	Emerging Trends in Computing: IOT, Edge, Fog, Cloud Computing and Deep Learning Towards an Application in Intelligent Transport System (ITS) (Dr. Neetesh Kumar, IIT Roorkee)	12:00 pm to 1:30 pm
		Lunch	1:30 pm to 2:30 pm
	Session-3	Introduction to IOT and its Protocols Introduction to Hardware Platform for IOT Getting Started with IOT Programming Concept (Mr.Gaurav Sharma, STS Kanpur)	02:30 pm to 4:00 pm
30-10-2020 Friday	Session-4	State-of- art IOT Architectures, Communication Technologies and Applications (Dr. Rahul Thakur, IIT Roorkee)	10:30 am to 12:00 pm
	Session-5	Internet of Thing (IOT), Machine Learning & IOT Applications (Dr. Shiv Prakash, JKIAPT, University of Allahabad)	12:00 pm to 1:30 pm
		Lunch	1:30 pm to 2:30 pm
	Session-6	Routing in IOT Network using MQTT Protocol (Dr. Rahul Johari, GGSIPU Delhi)	02:30 pm to 4:00 pm
31-10-2020 Saturday	Session-7	State of the Art Research in IOTs (Prof. S.K. Udgata, Central University of Hyderabad)	10:00 am to 11:30 am
	Session-8	Routing in SHIP (Sparse, Hybrid, Intermittent and Partitioned) Network using Java based ONE (Opportunistic Environment Simulator) (Dr. Rahul Johari, GGSIPU Delhi)	11:30 am to 1:30 pm
		Lunch	1:30 pm to 2:30 pm
	Session-9	Receiving and transmission of data using HTTP Protocols, Interfacing with Blynk app and Things speak Interfacing of Motor and Actuator with Blynk app (Mr.Gaurav Sharma, STS Kanpur)	02:30 pm to 4:00 pm
01-11-2020 Sunday	Session-10	Artificial Intelligence of Things enabled Fog Computing (Dr. Nagender Kumar Central University of Hyderabad)	10:30 pm to 12:00 pm
	Session-11	Introduction to Raspberry pi & Python Programming	12:00 pm to 1:30 pm

		Interfacing of Analog sensor with Raspberry pi (Mr.Gaurav Sharma, STS Kanpur)	
		Lunch	**1:30 pm to 2:30 pm**
	Session-12	Demonstration on some practical application of IOTs (Mr.Gaurav Sharma, STS Kanpur)	**02:30 pm to 4:00 pm**
02-11-2020 **Monday**	Session-13	MICEF(Mist, IOT, Cloud, Edge and Fog Computing) with hand on simulation using Cloudsim Simulator (Dr. Rahul Johari, GGSIPU Delhi)	**01:30 pm to 03:00 pm**
		Tea Break	**03:00 pm to 3:15 pm**
	Session-14	Test	**3:15 pm to 4:15 pm**
	Session-15	Human Values & Feedback	**04:30 pm to 6:10 pm**
		Concluding Ceremony	**6:10 pm to 6:30 pm**