



VIT[®]

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

*Two day National Workshop
on*

Robotics, IOT and Machine Learning for Engineers

7th and 8th January, 2020



Coordinators

Dr. RAJ KUMAR. E

Dr. NARENDARANATH BABU. T

Organized by

**Department of Design and Automation,
School of Mechanical Engineering, VIT, Vellore – 632014**

About VIT

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the Chancellor Dr.G.Viswanathan. From its humble beginning, the institution has grown exponentially to that of having more than 33,000 students. Students from all the states of India and from more than 50 countries are studying at VIT University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives. Currently, VIT has 4 campuses- in Vellore, Chennai, Amravati(AP) and Bhopal(MP). The National Institutional Ranking Framework (NIRF) of the MHRD, Government of India, has identified VIT as the best Private Engineering Institution in India in the year 2016 and 2017. VIT has gone for accreditation by NAAC[India], IET [UK] and ABET [USA] and follows world class academic processes. VIT is the first and only in India to get 4 star rating from QS, the world universities ranking organisation. The Industry consortium FICCI, has declared VIT as the "University of the Year 2016" in India. VIT has also been ranked in the top 201-250 in QS BRICS Ranking in 2016 and in the top 251 -300 in Times Higher Education (THE), Asia ranking, VIT has introduced many innovation in academic processes which adds value to every student. FFCS(Fully Flexible Credit System) for better learning, fully digitized academic portals that assists students in equipping themselves for 2020 market place, Hackathons / Makethons as part of curriculum exercise which kindles the interest and the curiosity of students, which moulds them to be better problem solvers, 8Th module in every subject being handled by industry experts, making the students contextualize the concepts they study in the class room, are a few of the innovations that VIT has introduced.

About School of Mechanical Engineering

The School of Mechanical Engineering is amongst the premier schools of VIT started functioning right from 1984. The school has got a team of highly qualified faculty members, many holding PhDs from the elite institutes across the globe, to teach and train the best minds of this country. The pride of the school lies in the significant research funding received from several government agencies such as DST, DRDO, MNRE, CSIR, CVRDE, CPDO, IE, AR & DB, BRNS, ISRO, UGC, NRB, AICTE and also from international funding agencies such as DST-UKIERI, Royal Academy of Engg., Indo-German etc., Memoranda of Understanding (MoUs) with various Industry Research Organisations and leading Universities. The Department of science and technology, Govt. of India has recognized the school for its research activities and supported in 2003 and 2010 under FIST scheme. The School has modern facilities, enabling cutting edge research in a wide spectrum of technological areas. The school actively assists local industries in product design, complex-part manufacturing and Computational Fluid Dynamics. The courses offered cater to the needs of Aerospace, Defence, manufacturing, Energy and Automotive industries. This has enabled the students to pursue higher studies in leading Universities in India and Abroad. Three of Bachelor's Degree programmes offered by the school, B.Tech. Mechanical Engineering and B.Tech Mechanical with Specialization in Automotive Engineering and B.Tech Mechanical with Specialization in Energy Engineering are accredited by the Engineering Accreditation commission of ABET.

How to apply?

Interested persons can send their details with registration form to the conveners through ICDAC conference website.

Kindly use the below link for register & online payment:

<http://info.vit.ac.in/events-vit/icdac2020/apply.asp>

Programme Overview

Robotics, Internet of things and Machine Learning are the new gears of human evolution! Like, Self-driving cars, brain-machine interfaces, software-controlled healthcare, human chatboats and robotic automation are no longer the future, but researches are currently using these in many areas. IoT is predicted to be one of the next big thing in technology. It is defined as the network of physical objects – devices, vehicles, buildings and other items – embedded with sensors, electronics, software and network connectivity that enables these objects to get the ability to sense and communicate. There are now about 4.6 billion connected devices excluding phones, tablets and laptops. A number that is expected to increase to 15.3 billion in the next five years according to the Ericsson Mobility report. A recent study released by Gartner says that 43% of all companies are using or plan to implement an IoT application and that's Industry 4.0. Machine learning is the science of getting computers to act without being explicitly programmed. In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome. By the end of these hands-on training, participants will understand the fundamentals of Robotics, IOT systems and IOT security and be able to identify threats and required mitigations to their own IOT systems and machine learning.

Topics to be covered:

1. Obstacle Avoidance Robot
2. Robotic programming
3. Pick and place operation
4. 3 axis robot demonstration
5. Android Application development using MIT App Inventor
6. Control devices using Google Assistant
7. Fundamentals of ML
8. Data Processing
9. Hyper parameters Grid Search, Classification Problem.
10. Augmented Reality with IOT applications.

Resource Persons

Dr. Pal Pandian, Associate Professor, Christ University, Bangalore.

He is presently working as an Associate Professor in the Department of Mechanical Engineering at Christ University, Bangalore. He gave an Interview in All India Radio (AIR), Trichy, Tamil nadu, India – on the topic of “The Methods to Improve Productivity in Industries” after the visit from Malaysia, on 16th October 2006. He received “Teacher Achievement Award-2014” and he has published a Text book on “Electrical Drives and Control” for II Semester Mechanical Engineering students.

Mr. Corel Pramod naik, Technical Head, AGIMUS TECHNOLOGIES PRIVATE LIMITED, Bangalore. AGIMUS Technologies Private Limited” is a technology company formed by Shri.Parameshwar, who has more than two decade of experience in the area of IOT/Autosar/VLSI / Embedded /RF/ PCB verticals and Technology Training. Innovation is the life of enterprise and AGIMUS is in pursuit of sustainable team, especially focus on R&D innovation.

Shri. Shiju George, Director, Robotic India education division, Canares Engineering Company, Bangalore. A product of NTTF 20+ Years’ experience in Tool & Die Making ,Product design, Reverse Engineering, First time in India Introduced new product MOJO (Stratasys-US) (SNGC Kochi)- 2013 and he Introduced New mechanical Design Software Top Solid-France in India2007.

Mr.kiran Gopinath, Technical head, Robotic India education division, Canares Engineering Company, Bangalore. Mr.Kiran completed Master of Science in Robotics, University West, Trollhattan. He has vast experience on Robot Simulation, Robot Systems, Robot Modelling, Automation system, Machine learning.

Mr. Naresh, Managing Director, Factocad Robotics and automation India pvt ltd, **Chennai**. Factocad is very unique and specialization for BIW Projects either Tooling Design or Robot simulation. Digital Manufacturing solutions provider with good team size and strong team professionals to make all kinds of BIW Digital Projects.

Mr. Shankar, Director, Co founder, Focus AR, **Chennai**. **Mr.Shankar** as a Co-Founder & Director responsible for all aspects of overall technology vision, commercial product development and customer delivery for software and hardware based technology solution providing company. Technology Planning for Augmented Reality / Virtual Reality and beyond. IoT with augmented reality to interact with IoT enabled devices through augmented reality. He developed a cloud based platform for live and offline video streaming for the product Zeboba. Hardware designing and manufacturing were done for the products such as GeoMarker, iMakeRobo, Heavy traffic server customization and configuration were done under his supervision.

Dr. Kathiravan Srinivasa, Associate professor, SITE, VIT, Vellore.

Kathiravan Srinivasan is presently working as an Associate Professor in the School of Information Technology and Engineering at Vellore Institute of Technology (VIT), India. He was previously working as a faculty in the Department of Computer Science and Information Engineering and also as the Deputy Director - Office of International Affairs at National Ilan University, Taiwan.

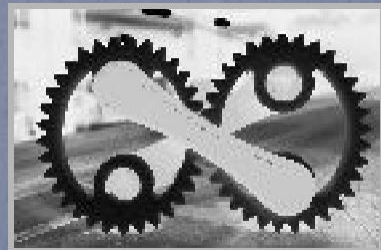
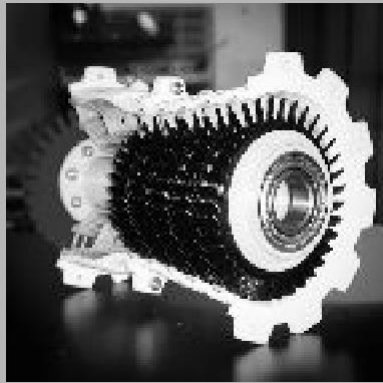
Dr. Pradeeba.M Assistant professor (Senior), SITE, VIT, Vellore.

Dr.Pradeeba completed PhD with machine learning specialization. She is currently working in the area of Wireless Sensor Networks, Simulation Tools, High Performance Computing, Internet of Things (IoT), Big Data Analytics, Open Source Technology and Embedded Systems.

SCHEDULE

Days	Durati on	Resource Persons	Topic	Venue
7-1-20	9.00-9.30 am	Registration		Gallery 1 Technology Tower
	9.30 - 10.15 am	Dr. Pal Pandian, Associate professor, Christ University, Bangalore.	Robotics for Engineers	
	10.15 - 11.00 am	Dr. Kathiravan Srinivasa, Associate professor, SITE, VIT, Vellore.	Artificial Intelligence	
	11.00 -11.15 am	Tea Break		
	11.15-1.30 pm	Mr. Corel Pramod naik, Technical Head, Agimus Technologies Private Limited, Bangalore.	IOT and Machine learning, Hands on Training	
	1.30 - 2.30	Lunch Break		
	2.30 -3.30	Dr. Pradeeba.M Assistant professor (Senior), SITE, VIT, Vellore.	Machine Learning	
	3.30-3.45	Tea Break		
	3.45- 5.30	Mr.kiran Gopinath, Technical head, Robotic India education division, Canares Engineering Company, Bangalore	Robotics programming and Hands on Training.	
8-1-20	9.30 - 10.15	Shri. Shiju George, Director, Robotic India education division, Canares Engineering Company, Bangalore	Robotics	M.G.R.block MB 114
	10.15 - 11.15	Mr. Naresh, Managing Director, FactoCAD Robotics and automation India pvt ltd, Chennai.	IOT applications and Hands on Training	
	11.15-11.30	Tea Break		
	11.45-1.30	Mr. Naresh, MD, FactoCAD.	IOT applications and Hands on Training	
	1.30 -2.30	Lunch Break		
	2.30-3.30	Mr.Shankar, Technical head, FocusAR, Chennai.	Augmented Reality aplications	
	3.30-3.45	Tea Break		
	3.45- 4.30 pm	Mr.Shankar, Technical head, FocusAR, Chennai.	Augmented Reality aplications	
	4.30- 5.00 pm	Valedictory function	Certificate Distribution	

Snap shots from Previous Events



Rules & Requirements

- No prior knowledge required.
- College Students, Graduates, Faculties and Working Professional are eligible to attend.
- Seats are limited & filled based on first come first serve.
- Participants will be made to work in a team to save time and manage internet during the workshop.

Did you know that..



There are now about 4.6 billion connected devices excluding phones, tablets and laptops. A number that is expected to increase to 15.3 billion in the next five years according to the Ericsson Mobility report. A recent study released by Gartner says that 43% of all companies are using or plan to implement an IoT application and that's Industry 4.0

Contact Us

Important Dates

Last date for registration: 1/1/2020

Confirmation of registration: 03/1/2020

Registration Fee

U.G / P.G. Students: Rs. 1500

Research Scholars: Rs. 2000

Academicians: Rs. 3000

Industry Professionals: Rs. 5000

Address for Correspondence

Dr. RAJ KUMAR E,

Associate Professor,

email: rajkumar.e@vit.ac.in

mobile : +91 99443 54944

Dr. NARENDIRANATH BABU T,

Associate Professor,

email: narendiranathbabu.t@vit.ac.in

mobile: +91 91761 27206

Department of Design and Automation,

School of Mechanical Engineering,

VIT , Vellore - 632 014.