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

VALUE ADDED TRAINING PROGRAM ON PYTHON FOR COMPUTER VISION AND DEEP LEARNING IN AUTONOMOUS SYSTEMS

13ᵗʰ Mar. to 15ᵗʰ Mar. 2020

Organized by

**Department of Design and Automation
School of Mechanical Engineering
in
Association with
VUERON SYSTEMS PRIVATE LIMITED**

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VA-TP Overview

This Value Added Training Program (VA-TP) will train on the basics of Python for Computer Vision and Deep Learning in Autonomous Systems prepared by a team of domain experts. The VA-TP is designed to demonstrate educators, engineers, researchers and industrial designers how to use python tool for autonomous systems, image processing and apply deep learning concepts. The VA-TP has the focused area.

- ❖ Introduction to Python basics & Hands-on OpenCV
- ❖ Hands-on developing image processing operation using embedded controller (Raspberry Pi)
- ❖ Vehicle detection and Tracking on Raspberry Pi
- ❖ Real-time vehicle speed calculation on Raspberry Pi
- ❖ Introduction to Deep Learning (DL) library-Tensor-Flow
- ❖ Hands-on with Tensor-Flow- computation graphs, designing Deep Neural Networks, various activation functions, and loss functions
- ❖ Backpropagation, Classification, regression, & CNN in DL
- ❖ Hands-on developing DL model "YOLO" for object detection/tracking on Raspberry Pi
- ❖ Designing Autonomous Road marking identification and real time lane keeping system
- ❖ Designing Real-time driver monitoring system- detecting awareness and drowsiness of the driver

VA-TP contents will be delivered by the expert from Vueron Systems Private Limited and will share recent trends on these topics.

Vueron Systems Private Limited

Who can register?

All faculties, research scholars, M. Tech in Mechatronics, Automotive Electronics and Mechanical in CPS students from VIT can participate. The skills learned in this workshop can be easily applied to create python based prototypes, robots, and simulate advanced image based machine learning and deep learning algorithms. Interested persons can register their participation in the link provided below.
http://events.vit.ac.in

Registration Fee

The course fee is Rs. 2160 (Excluding GST) and certificate will be provided to each participant upon completion of program.

Important Dates

- **Last date for registration: 11/03/2020**
- **Confirmation of registration: 12/03/2020**

About The Institute

Vellore Institute of Technology is emerging as a benchmark for continuous journey towards excellence amongst the institutions of higher education in the field of technology across the country. Its values of equality, transparency and healthy collaboration have been ably guided by the leadership of its founder Dr. G. Viswanathan, renowned for his principled life devoted to public service. The ubiquitous sense of joy and enthusiasm observed in the campus bears testimony to the positive learning and living experiences enjoyed by every student at VIT. It is a place where opportunities for learning as well as recreation are maximized and distractions are minimized. VIT students get to feel the taste of a borderless world through a heterogeneous mix of students from across the globe, which have made VIT as their institution of choice. VIT has long since been devoted to providing quality education in various Engineering disciplines and proliferated into the frontiers of Research as well.

About The School of Mechanical Engineering

The School of Mechanical Engineering (SMEC) offers four undergraduate programmes in Mechanical, Production & Industrial, Energy and Automotive Engineering and four postgraduate programs, including CAD/CAM, Mechatronics, CPS, Manufacturing and Automotive Engineering (a joint programme with ARAI, Pune). The school also offers M.Tech. (By research) and Ph.D Programmes. The faculty members of the school are actively involved in executing a number of R&D and consultancy projects from government agencies. In recognition of the research carried out, the DST sponsored in 2003 as well as in 2010 through FIST scheme.

Organizers

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