

Government College of Engineering

Aurangabad

**“Five Days Student Workshop cum Certificate
Course on Machine Learning**

(28th Aug - 1 Sept 2020)

Sponsored by TEQIP Phase III

PATRONS

Dr. P. B. Murnal

Principal Govt. College of Engineering ,
Aurangabad

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TEQIP Co-ordinator

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LEARNING OBJECTIVES

- This program is delivered via online and involves intensive hands on and concept building sessions
- The program features is NanoEdge AI software and STM32 microcontroller.
- To introduce students to the basic concepts and techniques of Machine Learning
- Learn Dataset Preparation, Dataset Annotations, Dataset Conversions, Training the model, Deployment of trained model
- Hands-on trainings on real life projects.

**MEASURABLE
OUTCOMES**

- Students will get skilled on embedded machine learning tools and technologies
- Students will learn to apply machine learning techniques to solve the real-world research and industry problems
- Hands-on training and practice sessions will help participants gain confidence on machine learning concepts by creating their own neural networks, object detection models etc
- The course will be useful for engineering and sciences students who are interested in the learning recent AI trends and their applications in areas like image processing, computer vision and robotics

- Establishment of Industry-Institute Partnership/interaction Cell.
- Organizing Workshop, conferences and symposia with joint participation of the faculty and the industries.
- Encouraging engineers from industry to visit Engineering Institution to deliver lectures.
- Participation of experts from industry in curriculum development.
- Arranging visits of staff members to various industry
- Visits of faculty to industry for study and discussions or delivering lectures on subjects of mutual interest.
- Memoranda of Understanding between the Institute and industries to bring the two sides emotionally and strategically closer.
- Short-term assignment to faculty members in industries.
- Visiting faculty/professors from industries.
- Professorial Chairs sponsored by industries at the Institute.
- R&D Laboratories sponsored by industries at the Institute.
- Scholarship/fellowships instituted by industries at the Institute for students.
- Practical training of students in industries.

ABOUT WORKSHOP

The workshop is sponsored by TEQIP. Apart from brief theoretical design rules, the present workshop is intended to give exposure (experimental) training

to the scientists and researchers who are interested in the field of Artificial Intelligence and Machine Learning. The workshop will be delivered via online and involves intensive hands-on and concept building sessions for a total of 21 hours by an industrial instructor. The program features NanoEdge AI software and STM32 microcontroller. Students will learn: What is TensorFlow? Introduction, Architecture & Example, What is Jupyter Notebook? Complete Tutorial. After completion of this project, students will be able to do TensorFlow Data set preparation, dataset conversions, and training the model.

Workshop Cum Certificate course will be held during 28th - 1st Sept 2020 through online mode only.

COURSE CONTENTS

- Introduction to AI & ML for Embedded Systems
- Getting started with Cartesian NanoEdge AI Studio-Project Creation, Benchmark & Optimisation, Learning & Detection, Sensitivity Analysis and AI model generation
- Structuring Sensor Data for AI model
- Creating a sensor data logger for single & multisensor applications
- Getting started with ARM Mbed IDE-project creation, integrating ML library
- Understanding Machine Learning library core functions

- TensorFlow Basics: Tensor, Shape, Type, Graph, Sessions & Operators, Download and Installation
- TensorFlow Data set preparation and Introduction to labelling tool
- Dataset conversions and training the model
- Testing the model on real time video analysis, android app, video analysis and web server deployment

REGISTRATION

There is no Registration fees for this workshop:

Registration Link

<https://forms.gle/RNUhP7WDDpkNT26i7>

Whom should apply :

UG, PG students/ Research Scholar, Academician

Important Dates

Last Date of Receipt of Registration Form: 27th August, 2020 till 5 PM

Candidates should complete the enclosed google form. Confirmation of eligible candidates will be on FIRST-COME-FIRST-SERVE basis up to a maximum of 50 candidates (APPROX). The complete registration form should be received by the coordinator by, 27th Aug 2019

ADDRESS FOR CORRESPONDANCE

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