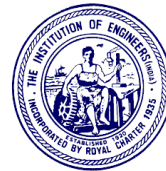# Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. Telangana, India

ESCI

INFORMATION TECHNOLOGY DIVISION

PROFESSIONAL DEVELOPMENT PROGRAMME

Machine Learning &
Artificial Intelligence
09 – 13 Oct 2023
(Classroom Training)

Powered by

ESCIUpSkill
A Smart Learning Platform

Introduction

Humans have developed the power of computer systems in terms of their diverse working domains, their increasing speed, and reducing size with respect to time. Since the invention of computers or machines, their capability to perform various tasks has experienced an exponential growth. Today's world aims at the science and engineering of making intelligent machines, especially intelligent computer programmes. A branch of Computer Science that pursues creating the computers or machines as intelligent as human beings is named 'Artificial Intelligence'.

Machine learning (ML) is the scientific study of algorithms and statistical models that computer systems use to perform a specific task without using explicit instructions, relying on patterns and inference instead. It is seen as a subset of Artificial Intelligence

Objectives

- To understand the vital nature of data for organisations.
- To learn the conceptual framework of machine learning.
- To explore and analyze data using supervised and unsupervised learning techniques.
- To develop and deploy knowledge learning models using Python.
- To understand the concepts of Artificial Intelligence and Deep Learning

Course Coverage

Introduction to Data Science
- Python for Data Science
- Data Analysis Using Python

About Machine Learning
Types of Machine Learning
 Data Preparation
- Data Preprocessing
- Labelling the Data

Supervised Learning: Classification
Supervised Learning: Regression
Unsupervised Learning: Clustering
Concepts of Artigicial Intellagence
Natural Language Processing
Analyzing Time Series Data
Speech Recognition

Neural Networks
- Artificial Neural Networks(ANN)
- Perceptron based classifier
- Single & Multilayer Neural Networks

Computer Vision and Deep Learning
- Computer Vision vs Image Processing
- Edge, Face and Eye Detection

Overview of Deep Learning
- Convolutional Neural Network
- Linear Regression using ANN.
- Image Classifier using Deep Learning
- Cause Study

Training Prerequisites: All training attendees must be fluent in algebra Basics, and basic programming in any Programming language like C, Java, Python.This Prerequisite material is available in ESCI LMS for preparation.

Methodology

Methodology of the programme includes Digital Learning through LMS Platfom, Online Vedio Intractive sessions with Cloud based Hand-on Practical, Lecture / Discussion with audio visual aid, bench marked video shows, chalk & talk sessions, Online case studies, debates, sharing of experiences etc. All the sessions will be interactive demanding active participation from all the members.

(An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

Target Participants

- Business Managers, Data Managers, Data Analysts, Business executives Technical Managers, Scientist and People working in Government, Public sector, Private sector and Defence organizations
- ETL developers/ Project Managers / Testing Professionals.
- Faculty / Professors / Research scholars/ Technical staff members of Engineering Colleges and Universities

Benefits to the participants

After completing this course, the Participant will be able to:

- Particiapnts can learn required prerequisites through esciupskill LMS platform
- Understand the concepts of Python & Hands – On practical experience
- understand the concepts of Artificial Intelligence and Deep Learning

Programme Dates & Timings

Venue for Ofline Training : Engineering Staff College of India, GachiBowli, Hyderabad

Dates: 09 – 13 Oct 2023

Session timings will be from 10:00 AM – 17:15 hrs with 1hrs Lunch break, 15 Minutes Tea breaks.

Course Director

Mr. Syed Azgar , MBA(IT), RHCE, MCSA
Sr Faculty & Head IT,
Information Technology Division,
Engineering Staff College of India, Hyderabad.

Course Fee for Offline Training

- ₹ **25,000/- (Residential Fee)** per participant. Fee includes course material, course kit, Single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and Snacks during the actual days of the training program

GST @18% is to be paid extra and above the training fee as training. **PAN Card No.** AAATT3439Q. **GST No: 36AAATT3439Q1ZV, HS No.: 999293** (under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994).
Note: 18% GST Extra (GST Nil for All State & Central Govt. Departments like DRDO, DGQA & Other Govt. Departments).

Programme fee is to be paid in in favour of **"THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA"** by **Electronic Fund Transfer (EFT)** to ESCI – **Axis Bank** A/c No. **912010049234564** with The Axis Bank Ltd, Old Mumbai Hwy, Cyberhills Colony, P Janardhan Reddy Nagar, GachiBowli Hyderabad-500032 by NEFT/ RTGS/ IFSC Code No. UTIB 0000733 – MICR No.500211020. **While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.**

Registration

Online registration shall be available on ESCI web portal : http://www.escihyd.org/index.php/it-upcoming-trainings

To register manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to : **it@escihyd.org**

A Certificate of participation will be awarded to each participant on conclusion of the programme.