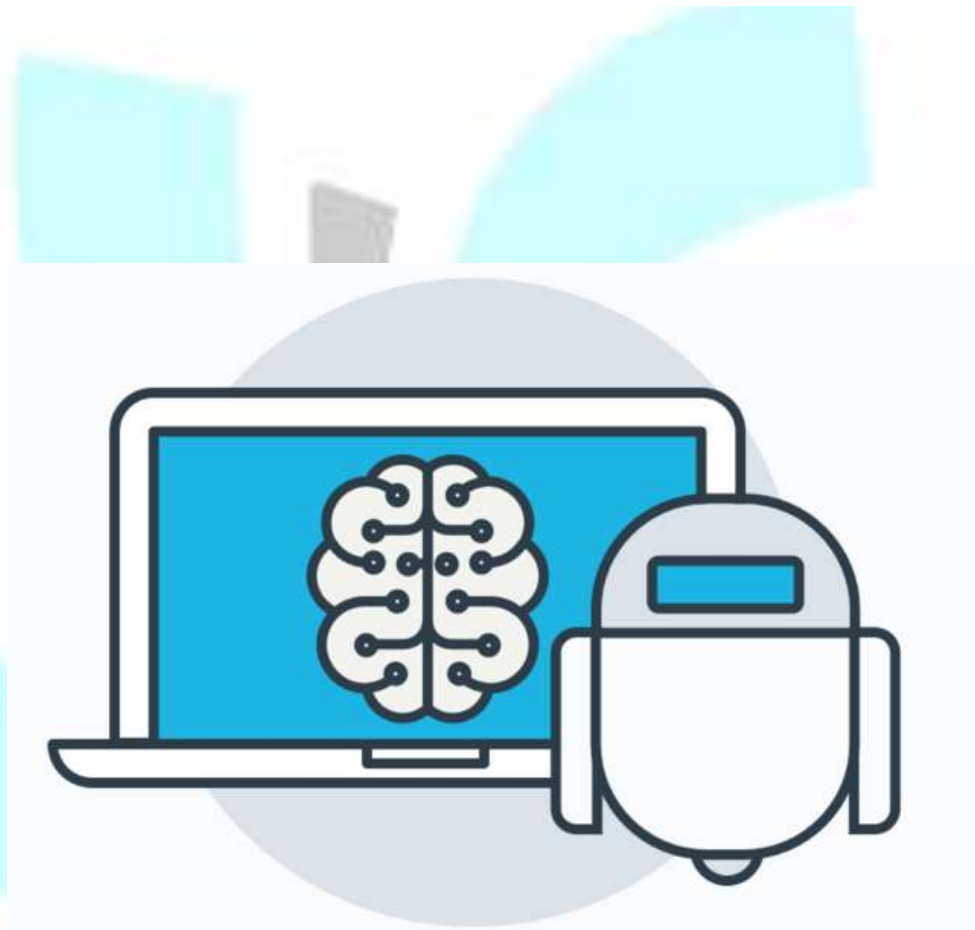


Machine Learning



Workshop Overview

Machine Learning (ML) is a field that has a long history but is still constantly and actively growing and changing. This workshop covers the basics of modern ML as well as some of the representative applications of AI and Machine Learning. Along the way, we also hope to excite you about the numerous applications and huge possibilities in the field of AI and Machine Learning, which continues to expand human capability beyond our imagination.

Course Content

Session 1

Introduction of Machine Learning

1. Introduction of Artificial Intelligence and Machine Learning.
2. Brief introduction to Machine Learning for AI.
3. Classification of Machine Learning.
4. Difference between Machine Learning and Artificial Intelligence.
5. Machine Learning Techniques.
6. Types of Learning.
7. Machine Learning System Design.
8. Supervised Learning- Regression Classification.
9. Future scope of Machine Learning And Artificial Intelligence.

Session 2

Learning Algorithms

1. Naive Bayes Classification
2. Back-propagation
3. Logistic Regression
4. Support Vector Machines (SVM)
5. Random Forest
6. Decision Tree
7. k-Nearest Neighbors (KNN)
8. K-Means Clustering

Session 3

Python/Anaconda

1. Introduction to python and anaconda
2. Conditional Statements
3. Looping, Control Statements
4. Lists, Tuple ,Dictionaries
5. String Manipulation
6. Functions
7. Installing Packages
8. Introduction of Various Tool
9. Introduction of Anaconda
10. Working on spyder ,Jupyter notebook

Session 4

Working on Various Python Library

1. Installing library and packages for machine learning and data science
2. Matplotlib
3. Scipy and Numpy
4. Pandas
5. IPython toolkit
6. scikit-learn

Session 5

Introduction of OpenCv

1. Installing Opencv library
2. Introduction of Opencv and its function
3. Reading and Writing Image and Video
4. Creating Different Shape
5. Introduction of Haar-Cascade Classifier
6. Working with images and videos

Session 6

Projects

1. Hand-written Recognition
2. Gender Classification
3. Simple Spam-Detecting Machine Learning classifier
4. Predict whether a loan applicant was likely to pay back their loan.
5. Stock Market Data Analysis
6. House Price Prediction using Regression
7. Phishing Website Classification
8. ODI Score Predictor
9. Working With IRSI/Titanic Data Set
10. Classification of Solar Flares
11. Animal Classification
12. Car-Number Plate Detection
13. Face Detection /Eye Detection
14. Working with wine Data Set
15. Breast Cancer Wisconsin (Diagnostic) classification

About the Trainer/Facilitator:

The faculties at **Cognizance** are from top academic institutions, industries and research institutions. They have yearlong experience in the industries at the same time had the best education in their field. In fact some of them are pursuing/have pursued masters and doctorate at top notch universities to build their knowledge base.

Note: Basic requirements and the benefits of attending/organizing the workshop are mentioned below.

Prerequisites & Eligibility:

- This is a basic level workshop. The tools and techniques required will be taught in the workshop itself.
- The course and curriculum of this workshop is more inclined towards engineering streams, however anybody can join this workshop even from different department.
- Mode of Training/Teaching will be English only.

Duration of the workshops:

Two consecutive days (8hrs session each day). A weekend would be highly appreciated.

Dates at Panjab University, Chandigarh: **19th – 20th Jan, 2019.**

Workshop Fees:

Rs. 500 per participant only

Note: fee includes, workshop charges + certification + GST(18%) & other taxes and expenditures etc.

Requirements from Students:

1. A laptop/PC (with minimum of 2 GB RAM, 100 GB HDD, Intel i3+ processor) in a group of 5 students.
1. Internet Connection/Wi-Fi for Laptop/PC (Not Mandatory).

Benefits for the participants:

1. A digital toolkit of PPTs and study material for all participants
2. Certificate of Participation for every participant.
3. A competition will be organized at the end of the workshop and winners will be awarded by Certificate of Excellence.
4. Six months online support related to the workshop course content.
5. Internship opportunity for prospective students.

Additional Benefits: At the end of the workshop, a free of cost zonal round competition (for workshop participants only) will be held and 3 winner teams of 4-5 members each would be awarded certificate of Excellence and would be selected for the final round to be held during **Cognizance'19 (15th-17th March 2019)** at **IIT Roorkee** campus. The prize money for the final round is **Rs. 30,000/-**.

