MACHINE LEARNING USING PYTHON

Workshop Agenda

Day 1

Day 1 (First Half) Getting started with pandas and NumPy.

- A quick overview on Anaconda Python
- Using Spyder IDE, an overview on Python libraries/tools pre-bundled with Anaconda
- NumPy module
- Matplotlib module
- pandas package
- stats models package
- SciPy core library
- Scikit-Learn and Scikit-Image package

Data Analysis using pandas module

- Series and Data Frames
- Accessing elements from a series
- Series alignment

Introduction to Data Science

- Data science & its importance
- Key Elements of Data Science
- Machine Learning
- Artificial Intelligence
- Cloud Computing
- Big Data

Introduction to Machine Learning

- What is Machine Learning (ML)
- How machines learn?
- Types of learning: Supervised, Semi-supervised, Unsupervised, Reinforcement.
- Basics of Classification, Regression and Clustering algorithms
- Creating your first Prediction Model

- Training & Model evaluation
- Choosing Machine Learning algorithm

Day 1 (Second Half) Pre Processing Techniques

- Feature Selection
- Scaling
- Box Cox
- Yeo – Johnson
- Principal Component Analysis
- LDA

Advanced Machine Learning Algorithms

- Supervised Machine Learning algorithms
- Linear Regression

Day 2

Day 2 (First Half) Advanced Machine Learning Algorithms

- Supervised Machine Learning algorithms
- Logistic Regression
- Decision/Classification Tree
- Random Forest

Day 2 (Second Half) Advanced Machine Learning Algorithms

- Unsupervised Machine Learning algorithms
- Clustering
- Segmentation
- Case study with real world examples

Projects :

- Chatbot project using Luis
- Face Detection implimentation in python using opencv
- Housing price prediction