



GUJCOST & DST
sponsored
One Week Short Term Training Program
On
Machine Learning using Python
(22nd Oct, 2018 to 26th Oct, 2018)
Organized by
Information Technology Department
Sardar Vallabhbhai Patel Institute of Technology, Vasad

Day 1: Introduction to Machine Learning & Python

- Basics of Machine Learning
 - Introduction to Machine Learning
 - How Machine Learning can be achieved through Gaussian based modeling
- Applications of Machine Learning with Neural Network
 - Basics of Neural Network
 - Back propagation algo followed by appl in tracking

Hands-on (Python basics)

- Programming Basics, data types
- Structures and conditional statements
- Python core packages
- Concatenate and Transform data
- Hands on practice on above topics

Day 2: Classification using Python

- Learn how to build and tune predictive models and evaluate (classification, Regression)
 - Nature of errors & accuracy in Data models
 - Methods of tuning Predictive models

Hands-on

- Implementation of classification algorithms using Python

Day 3: Machine Learning with Python

- Classification Overview
- Classification algorithms

Hands-on (python libraries useful in machine learning)

- NumPy, SciPy, Sci-kit learn packages and its operations, Pandas, Matplotlib
- Hands on practice on above packages

Day 4: Clustering using Python

- Introduction to Clustering
- Types of Clustering and its applications
 - Flat Clustering vs. Hierarchical Clustering
 - K-Means Clustering with Python and Scikit-learn
 - Support Vector Machine Clustering

Hands-on

- Implementation of clustering algorithms using Python

Day 5: Introduction to Deep learning

- Deep learning models, tools and research issues

Hands-on

Introduction to Machine learning libraries in Python and hands-on on any one

- Tensorflow (preferable)
- Theano
- caffe