

Basics of Machine Learning

Course Content

Module 1: introduction to Machine Learning

- What is Machine Learning
- Applications of ML
- Supervised and Unsupervised Learning
- Steps to design a ML algorithm
- Introduction to google colaboratory

Module 2: Introduction to Numpy

- Basics of Numpy Arrays
- Numpy Indexing and slicing and scalar operations
- Operations on Numpy array,
- Generating random values

Module 3: Introduction to pandas

- Gain an introduction to the *DataFrame* and *Series* data structures of the pandas library
- Access and manipulate data within a *DataFrame* and *Series*
- Import CSV data into a pandas *DataFrame*
- Reindex a *DataFrame* to shuffle data

Module 4: Linear Regression

- What is Linear Regression
- Linear regression using sklearn

Module 5: Logistic Regression

- What is Logistic Regression
- Logistic regression using sklearn

Module 6: Naive Bayes Classification

- What is Naive Bayes Classification
- Naïve Bayes Classification using sklearn

Module 7: Decision Tree Classification

- What is Decision Tree Classification
- Decision Tree Classification using sklearn
- Comparison of different classification algorithms on different datasets.

Module 8: Clustering

- Introduction to clustering
- K-means Clustering algorithm
- K-means implementation using sklearn