



# Jansons Institute of Technology

Karumathampatti, Coimbatore - 641 659  
Approved by AICTE and Affiliated to Anna University  
An ISO 9001:2015 certified institution

## Department of Computer Science and Engineering

Industry Readiness Course - Syllabus

## Machine Learning With Python

2019 - 2020 ODD Semester

### Course Objectives:

- To introduce the basic concepts and techniques of Machine Learning.
- To understand the difference between supervised and unsupervised learning.
- To develop the problem solving skills using Machine Learning algorithms.

### Course Outcomes:

- Able to apply machine learning algorithms and make predictions on the given data.
- Make predictions using Machine Learning Algorithms.
- Able to develop programming solutions using Python libraries.

### Syllabus:

#### Module 1 Introduction to Python Programming & Machine Learning 10

Python Installation with various IDE's - Python data Types - Control Structure - Functions - Data Analysis & visualization using numpy, panda matplotlib, scipy - Machine Learning: Basic concepts - Applications of Machine Learning - Supervised vs Unsupervised Learning - Python libraries suitable for Machine Learning.

#### Module 2 Regression & Classification 10

Regression: Introduction - Linear Regression & Non-linear Regression - Model evaluation methods - Classification: Introduction - K-Nearest Neighbor - Decision Trees - Logistic Regression - Support Vector Machines - Model Evaluation.- Evaluation Measures.

#### Module 3 Clustering & Dimensionality Reduction 10

Clustering: Introduction - K-Means Clustering - Hierarchical Clustering - Density-Based Clustering - Advantages and disadvantages - Dimensionality Reduction: Basic Concepts - Feature Extraction & Selection.

#### Course Designed By

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