



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

Data Analytics Using Python

2018 - 2019 ODD Semester

Course Objectives:

- To introduce the basic concepts of Python Programming.
- To get a detailed account of data preparation phase.
- To demonstrate the concept of data visualization.

Course Outcomes:

- Perform essential operations using Numpy and Pandas .
- Decide on appropriate method/ technique for data preparation and provide operability by assuring impartiality and integrity to the given data.
- Able to apply the appropriate data visualization technique on the real world data.

Syllabus:

Module 1 Introduction to NumPy and Pandas

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Introduction to numpy - Creating arrays - Using arrays and scalars - Indexing Arrays - Array Processing - Array Input and Output - Computation on Numpy arrays: Universal functions - Introduction to Pandas - Series - DataFrames - Index objects - Drop Entry - Selecting Entries - Data Alignment - Rank and Sort - Essential functionality - Handling Missing Data.

Module 2 Data Preprocessing

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Data Preparation, selection of data, feature selection, dimensionality reduction, record selection, cleaning of data, improving data quality, providing operability, impartiality and maximizing efficiency - Complex data types, data integration, vertical and horizontal data integration.

Module 3 Data loading and Visualization with Matplotlib

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Reading and writing data in text format - interacting with databases - combining and merging data sets - General Matplotlib tips, simple line plots - simple scatter plots - visualizing errors - density and contour plots - histograms - binning and density - customizing plot legends and colorbars - customizing matplotlib.

Course Designed By


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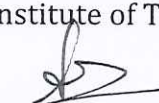
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