Data Analysis with Python

01 - MATHEMATICAL & SCIENTIFIC COMPUTING WITH PYTHON (NUMPY & SCIPY)

- Importance of Numpy in Analytics
- Broadcasting in Numpy
- Homogeneity & Type Casting
- Boolean Indexing
- Universal function
- Statistical distributions and functions in Scipy
- Linear algebra & Sparse matrices in Scipy

02 – DATA ANALYSIS WITH PANDAS

- Loading Data from different sources
- Series and Data-Frame
- Index and its importance
- Data selection and filtering
- Sorting and ranking
- Computing Descriptive Statistics
- Unique Values, Value Counts, and Membership
- Handling Missing Data
- Hierarchical Indexing

03 - DATA WRANGLING WITH PANDAS: CLEAN, TRANSFORM, MERGE, RESHAPE

- Combining and Merging Data Sets
- Reshaping with Hierarchical Indexing
- Pivoting “long” to “wide” Format
- Removing Duplicates
- Transforming Data Using a Function or Mapping
- Replacing Values
- Renaming Axis Indexes
- Discretization and Binning
- Detecting and Filtering Outliers
- Dummy Variables/ Computing Indicator

04 - DATA AGGREGATION WITH PANDAS

- Data Aggregation
- Grouping by Index Levels
- Split-apply-combine
- Pivot Tables and Cross-Tabulation