Data Analysis with Python

Welcome to the course!

This Learning path is great for beginners and intermediate levels alike, as it starts with the fundamentals and works through advanced topics. Completing this path will set you up for success as a competent data analyst.

In this course you learn to handle some of the most common dirty data problems. You will learn how to perform summary statistics on Data Frame, visualize the contents of your data, mitigating missing data values, explore different techniques for merging, joins and preparing your data for predicting and better decision making.

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Module 1

Introduction to Data Analysis
- What is Data Analysis
- Introduction to Notebooks
- Google Collab Overview

Module 2

Introduction to Pandas
- Inspecting Data Frame
- Some Basic Methods
- Sub Setting Columns
- Summary Statistics

Module 3

Data Manipulation with Pandas
- Selection with Loc and iLoc
- Slicing and Indexing
- Group by and Pivot Tables
- Reshaping Data

Module 4

Merging Dataframes with Pandas
- Indexing and Reindexing
- Concatenating Series
- Appending Through Axis
- Joining Techniques
- Merging Dataframes

Module 5

Data Visualization
- Getting started with Matplotlib
- Matplotlib Subplots
- Matplotlib Interface
- Getting started with Seaborn
- Seaborn Subplots
- Line Plots
- Bar Plots
- Scatter plots
- Histograms

Module 6

Data Cleaning and Preparation
- Handling Missing Data
- Visualizing Missing Data
- Removing Missing Data
- Data Imputation
- Removing Duplicate Values
- Parsing Dates
- Regular Expressions
- Type Conversions

Module 7

Introduction to Probability
- Sets and Events
- Exclusive/Non-Mutually Exclusive Events
- Independent/Dependent Events
- Laws of Probability
- Conditional Probability: Practice Questions 01
- Conditional Probability: Practice Questions 02
- Law of Total Probability
- Bayes Theorem