

Data Analysis with Python

Duration: 3 Days · **Training format:** Virtual Classroom / Online

Description

This training is designed for beginners to the Python language and those who wish to perform analysis processes such as statistical operations and visualization on data using Python. By the end of the training, participants are expected to first understand the structure of the Python programming language and gain the ability to write code, and then acquire skills on the use of Python programming language and tools in the field of data analysis.

What will you learn in this training?

- You will become familiar with Python Development Environments
- You will be able to develop programs with Python
- You will be able to perform Data Analysis Operations with Python

Outline

Python Programming Language and Basic Concepts

- Overview of development environments used for programming with Python
- Anaconda and Python Development Environment (Spyder, Jupyter Notebook)
- Google Colaboratory (The Environment Where Applications Will Be Performed During the Training)
- Applications of Python programming language
- Basic Concepts of Python Language
- Coding Structure
- Control Structures and Loops
- Function Usage
- Data Types and Collections
- Using Built-in Modules (math, random, statistics, etc.)
- File Operations with Python
- Creating, Reading, Writing, and Closing Files
- Working with CSV and Excel File Types

Overview of Data Analysis

- What is Data Analysis? What Can Be Done with Data Analysis?
- What is Data Science? What Are the Elements of Data Science?
- How Does the Process of Extracting Useful Information from Data Work?
- CRISP-DM Methodology and Its Demonstration on an Example

Developing Data Analysis Applications with Python

- Tools Used for Developing Data Analysis Applications and Their Uses
- Data Preprocessing Processes
- Reading data from Excel, CSV, etc. files
- Gaining information about the dataset (how many data points we have, whether we have missing data)
- Adding and deleting data,
- Detecting and cleaning repeated data
- Filtering within data
- Completing missing data
- Statistical Operations on Numerical Data
- Basic operations (finding the largest, smallest, average values, etc.)
- Deriving statistical distributions (standard deviation, variance, correlation, etc.)
- Data Visualization
- Drawing graphs (line, bar, pie, etc.)
- Operations on graphs
- Data Analysis Application Studies on Ready Datasets