

# PYTHON DATA ANALYSIS: OUTLINE

---

## Week 1: Introduction to Data Analysis

- Understanding the role of data analysis in decision-making
- Introduction to Python for data analysis (Numpy and Pandas)
- Exploring data types, data structures, and data manipulation

## Week 2: Introduction to Data Cleaning and Preprocessing

- Data quality assurance
- Identifying and handling missing data
- Dealing with outliers and other data anomalies

## Week 3: Introduction to Data Visualization

- Basic plotting techniques using Matplotlib
- Extracting insights from data distributions and relationships
- Performing EDA using Pandas and visualizations

## Week 4: Introduction to Machine Learning

- Overview of machine learning concepts
- Supervised vs. unsupervised learning
- Hands-on exercises with Scikit-Learn for classification and regression

## Week 5: Introduction to Statistical Analysis

- Descriptive statistics and summary metrics
- Hypothesis testing and p-values
- Implementing statistical analysis in Python using SciPy



**DATAIDEA**

+256-771754118  
+256-701520768

dataideaorg@gmail.com  
www.dataidea.org

UMF House,  
Sir Apollo Kagwa Rd

# PYTHON DATA ANALYSIS: OUTLINE

---

## Week 6: More Data Visualization and Exploratory Data Analysis (EDA)

- Advanced visualization with Seaborn for statistical analysis
- Creating meaningful visualizations for data exploration
- Correlation analysis and feature selection

## Week 7: Data Wrangling and Feature Engineering (Data transformation techniques)

- Feature scaling and engineering for model improvement
- Data normalization and standardization
- Handling categorical data and encoding techniques

## Week 8: More Machine Learning (Model Evaluation and Validation)

- Evaluating machine learning models
- Cross-validation and hyperparameter tuning
- Model selection and performance metrics

## Week 9: Time Series Analysis

- Understanding time series data
- Time series visualization and decomposition
- Forecasting techniques with Python

## Week 10: Capstone Project

- Applying learned concepts to a real-world dataset
- Data analysis, visualization, and modeling
- Presenting findings and insights



**DATAIDEA**

+256-771754118  
+256-701520768

dataideaorg@gmail.com  
www.dataidea.com

UMF House,  
Sir Apollo Kagwa Rd

# PYTHON DATA ANALYSIS: OUTLINE

---

## Do you seriously want to learn Python and Data Analysis with Python?

If you're serious about learning Python for Data Analysis, I highly encourage you to enroll in my Complete Python and Data Analysis Courses. Don't waste your time following disconnected, outdated tutorials.

My Complete Python Course has everything you need in one place.

- Over 10 hours of HD video
- Unlimited access - watch it as many times as you want
- Self-paced learning - take your time if you prefer
- Watch it online or download and watch it offline
- One-on-one training with me 2-4 times a week

Sincerely,



**Juma Shafara**

ML Software Developer, Coding Instructor



**DATAIDEA**

+256-771754118  
+256-701520768

dataideaorg@gmail.com  
www.dataidea.org

UMF House,  
Sir Apollo Kagwa Rd