VOYAJ AI ACADEMY

DATA SCIENCE AND MACHINE LEARNING WITH PYTHON

LEARNING TRACK

✔ Introduction to Data Science and Python Programming

- Overview of Data Science
- Introduction to Python for Data Science
- NumPy, pandas, and Matplotlib basics
- Setting up Python environment
- AI in Action: Introduction to ChatGPT

✔ Exploratory Data Analysis (EDA)

- Understanding Data Distributions
- Correlation, pair plots, and heatmaps
- Outlier Detection
- How ChatGPT can help generate EDA code snippets and suggest analysis techniques

✔ Advanced Machine Learning Algorithms

- Decision Trees, Random Forests, and Gradient Boosting
- Support Vector Machines (SVM) and k-Nearest Neighbors (k-NN)
- Tuning Hyperparameters
- How to use AI to improve code efficiency and model performance

✔ Data Collection, Cleaning, and Preparation

- Introduction to data sources and APIs
- Handling missing values, duplicates, and incorrect data types
- Feature selection, normalization, and standardization
- Using ChatGPT for Data Insights

✔ Introduction to Machine Learning

- Supervised vs Unsupervised Learning
- Regression vs Classification
- Introduction to Scikit-Learn
- Leveraging ChatGPT for ML model recommendations and code assistance