

Data Visualizing

10 Days (10 hours)

- Data Visualization with Pandas
- Time Series Analysis
- Data distributions and patterns
- Plotting with Matplotlib
- Transfer data from other libraries to Matplotlib
- Creating univariate and bivariate plots
- Customizing plots with colors, labels, titles, and annotations
- Heatmaps, pair plots, violin plots
- Plotly and Bokeh
- PowerBI More than introduction
- Plotting and working with geographic data
- Catplot, count, bar, point, time series, seasonal, pair plots
- Dimensionality reduction techniques: PCA, t-SNE
- Visualizing statistical relationships: regression plots, joint plots
- 3D visualization with Plotly and Matplotlib
- Dashboarding tools like Dash, Streamlit
- Crafting narratives using visualizations

Machine Learning Excellence

30 Days (30 hours)

- Machine Learning Fundamentals
- Supervised, Unsupervised, Reinforcement Learning
- Regressions (linear, Logistic, Polynomial, Evaluation metrics)
- Installing Machine and Deep Learning libraries (scikit-learn, tensorflow, pytorch, keras)
- Regression models: mean squared error (MSE), R-squared
- Classification algorithms and Logistic regression
- Decision trees, random forests, and gradient boosting
- K-means clustering
- Hierarchical clustering and density-based clustering
- Dimensionality reduction techniques
- Principal Component Analysis (PCA)
- t-Distributed Stochastic Neighbor Embedding (t-SNE)
- K-fold cross-validation & stratified cross-validation
- Naïve Bayes
- Support Vector Machines (SVM)
- Computer vision
- Bayesian optimization for hyperparameter tuning