

Complete Data Science Skills Checklist - Ajay

Python

- ☐ Variables & Data Types
- ☐ Lists, Tuples, Sets, Dicts
- ☐ Loops & Conditions
- ☐ Functions
- ☐ File I/O
- ☐ Exception Handling
- ☐ OOP Concepts

NumPy

- ☐ Array Basics
- ☐ Matrix Operations
- ☐ Reshape & Flatten
- ☐ Broadcasting
- ☐ Random Numbers

Pandas

- ☐ Series & DataFrames
- ☐ Filtering & Sorting
- ☐ GroupBy
- ☐ Merge & Join
- ☐ Missing Data Handling

Visualization

- ☐ Matplotlib Basics
- ☐ Seaborn Charts
- ☐ Plot Customization
- ☐ Interactive Plots (Plotly)

EDA

- ☐ Understanding Data
- ☐ Outliers

- ☐ Feature Relationships
- ☐ Correlation
- ☐ Insights & Storytelling

Statistics & Math

- ☐ Mean, Median, Mode
- ☐ Variance, SD
- ☐ Probability
- ☐ Hypothesis Testing
- ☐ Distributions

Machine Learning

- ☐ Linear & Logistic Regression
- ☐ Decision Trees
- ☐ Random Forest
- ☐ SVM
- ☐ KNN
- ☐ Clustering (KMeans, DBSCAN)
- ☐ PCA
- ☐ Model Evaluation
- ☐ Hyperparameter Tuning

Deep Learning

- ☐ ANN
- ☐ CNN
- ☐ RNN, LSTM
- ☐ Activation Functions
- ☐ Loss & Optimizers
- ☐ Transfer Learning

NLP

- ☐ Text Cleaning
- ☐ Tokenization
- ☐ TF-IDF
- ☐ Sentiment Analysis
- ☐ NER
- ☐ Word Embeddings

SQL

- ☐ SELECT, WHERE
- ☐ GROUP BY
- ☐ JOINS
- ☐ Subqueries
- ☐ Window Functions
- ☐ CTEs

BI Tools

- ☐ Power BI Basics
- ☐ Tableau Charts
- ☐ Excel Dashboards
- ☐ DAX
- ☐ Power Query

Deployment & MLOps

- ☐ Git + GitHub
- ☐ Pickle/Joblib
- ☐ Streamlit
- ☐ Flask API
- ☐ Docker Basics
- ☐ Heroku/AWS Deployment

Soft Skills

- ☐ Storytelling
- ☐ Resume Writing
- ☐ LinkedIn Posting
- ☐ Case Studies
- ☐ Mock Interviews