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