Complete Data Science + AI 8-Week Schedule (Starting June 12)

# WEEK 1 – Jun 12 to Jun 18: Python + Math + SQL

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| Date | Topics |
| Jun 12 (Wed) | Python Basics: Variables, Loops, Functions |
| Jun 13 (Thu) | Python OOP, File Handling |
| Jun 14 (Fri) | NumPy & Pandas |
| Jun 15 (Sat) | Matplotlib & Seaborn |
| Jun 16 (Sun) | SQL: SELECT, WHERE, GROUP BY, JOINS |
| Jun 17 (Mon) | SQL Advanced: Subqueries, Aggregates |
| Jun 18 (Tue) | Math: Linear Algebra, Distributions |

# WEEK 2 – Jun 19 to Jun 25: Data Analysis + Statistics

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| Date | Topics |
| Jun 19 (Wed) | Data Cleaning: Nulls, Outliers |
| Jun 20 (Thu) | Feature Engineering, Encoding, Scaling |
| Jun 21 (Fri) | EDA Visuals: Heatmaps, Boxplots |
| Jun 22 (Sat) | Statistics: Descriptive, Inferential |
| Jun 23 (Sun) | Distributions: Normal, Binomial, Poisson |
| Jun 24 (Mon) | Hypothesis Testing: z, t, chi-square |
| Jun 25 (Tue) | Probability: Bayes, CLT, A/B Testing |

# WEEK 3 – Jun 26 to Jul 2: ML – Supervised Learning

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| Date | Topics |
| Jun 26 (Wed) | ML Intro, Train/test, Metrics |
| Jun 27 (Thu) | Linear & Logistic Regression |
| Jun 28 (Fri) | Decision Trees, Random Forests |
| Jun 29 (Sat) | KNN, SVM |
| Jun 30 (Sun) | Naive Bayes |
| Jul 1 (Mon) | Evaluation: Confusion Matrix, AUC |
| Jul 2 (Tue) | Cross-validation, Bias-Variance |

# WEEK 4 – Jul 3 to Jul 9: ML – Unsupervised + Practice

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| Date | Topics |
| Jul 3 (Wed) | K-Means, Hierarchical Clustering |
| Jul 4 (Thu) | DBSCAN, Silhouette Score |
| Jul 5 (Fri) | PCA, t-SNE |
| Jul 6 (Sat) | GridSearchCV, RandomSearchCV |
| Jul 7 (Sun) | ML Project: Loan / House Price |
| Jul 8 (Mon) | Project Continued + Model Tuning |
| Jul 9 (Tue) | ML Revision + Interview Qs |

# WEEK 5 – Jul 10 to Jul 16: Deep Learning

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| Date | Topics |
| Jul 10 (Wed) | NN Basics: Perceptron, Activations |
| Jul 11 (Thu) | Backpropagation, Loss Functions |
| Jul 12 (Fri) | Optimizers, Overfitting, Dropout |
| Jul 13 (Sat) | CNNs: Filters, Pooling, Padding |
| Jul 14 (Sun) | VGG, ResNet, Transfer Learning |
| Jul 15 (Mon) | DL Project: Image Classification |
| Jul 16 (Tue) | Project + Review |

# WEEK 6 – Jul 17 to Jul 23: NLP

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| Date | Topics |
| Jul 17 (Wed) | Tokenization, Lemmatization |
| Jul 18 (Thu) | BoW, TF-IDF |
| Jul 19 (Fri) | Sentiment Analysis, NER |
| Jul 20 (Sat) | Word2Vec, GloVe |
| Jul 21 (Sun) | RNN, LSTM, GRU |
| Jul 22 (Mon) | Transformers: BERT, GPT |
| Jul 23 (Tue) | NLP Project: Chatbot/Resume Scanner |

# WEEK 7 – Jul 24 to Jul 30: RL + MLOps + BI

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| Date | Topics |
| Jul 24 (Wed) | RL: MDP, Q-Learning |
| Jul 25 (Thu) | DQN, RL Applications |
| Jul 26 (Fri) | Model Deployment: Flask, Streamlit |
| Jul 27 (Sat) | Docker, Git, CI/CD |
| Jul 28 (Sun) | Power BI Dashboards |
| Jul 29 (Mon) | Tableau Dashboards |
| Jul 30 (Tue) | Data Storytelling + BI Review |

# WEEK 8 – Jul 31 to Aug 6: Projects + Mock Interviews

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| Date | Topics |
| Jul 31 (Wed) | Project 1: Netflix/IPL EDA |
| Aug 1 (Thu) | Project 2: Loan Prediction |
| Aug 2 (Fri) | Project 3: Stock Price LSTM |
| Aug 3 (Sat) | Project 4: CNN or NLP |
| Aug 4 (Sun) | Interview Prep: SQL + ML + Stats |
| Aug 5 (Mon) | Cheatsheets + Mock Interview |
| Aug 6 (Tue) | Final Review + Resume Polish |