

| Week | Day | Date        | Topic                               | Daily content  |
|------|-----|-------------|-------------------------------------|--|
| 1    | 1   | 21-Jul-2024 | Introduction to Data Science        | Introduction to Data science bootcamp  |
|      | 2   | 22-Jul-2024 |                                     | Data Operations in Python  |
|      | 3   | 23-Jul-2024 |                                     | Data Cleaning and Preprocessing with Python  |
|      | 4   | 24-Jul-2024 |                                     | Data Visualization techniques with python  |
|      | 5   | 25-Jul-2024 |                                     | <b>Data Science Practical Evaluation &amp; Theoretical Exam</b>                    |
| 2    | 6   | 28-Jul-2024 | Foundations of Machine Learning     | Introduction to Machine Learning   |
|      | 7   | 29-Jul-2024 |                                     | Feature Engineering  |
|      | 8   | 30-Jul-2024 |                                     | Supervised learning (Regression)   |
|      | 9   | 31-Jul-2024 |                                     | Supervised learning (Classification)   |
|      | 10  | 1-Aug-2024  |                                     | <b>Foundations of Machine Learning Practical Evaluation &amp; Theoretical Exam</b> |
| 3    | 11  | 4-Aug-2024  | Advanced Machine Learning           | Databases for Data Science   |
|      | 12  | 5-Aug-2024  |                                     | Ensemble Methods & Regularization Techniques                                       |
|      | 13  | 6-Aug-2024  |                                     | Unsupervised Learning Clustering   |
|      | 14  | 7-Aug-2024  |                                     | Unsupervised Learning Association Rule & Problem Simplification                    |
|      | 15  | 8-Aug-2024  |                                     | Introduction to Deep Learning  |
| 4    | 16  | 11-Aug-2024 | Deep Learning                       | <b>Advanced Machine Learning Practical Evaluation &amp; Theoretical Exam</b>       |
|      | 17  | 12-Aug-2024 |                                     | Artificial Neural Networks (ANN)   |
|      | 18  | 13-Aug-2024 |                                     | Convolutional Neural Networks (CNN)  |
|      | 19  | 14-Aug-2024 |                                     | Generative Adversarial Networks (GANs)   |
|      | 20  | 15-Aug-2024 |                                     | <b>Mini Project Presentation</b>   |
| 5    | 21  | 18-Aug-2024 | Time Series Forecasting             | <b>Deep Learning Practical Evaluation &amp; Theoretical Exam</b>                   |
|      | 22  | 19-Aug-2024 |                                     | Time Series Forecasting (RNNs)   |
|      | 23  | 20-Aug-2024 |                                     | Time Series Forecasting (LSTMs + GRU)  |
|      | 24  | 21-Aug-2024 |                                     | Time Series Forecasting (ARIMA)  |
|      | 25  | 22-Aug-2024 |                                     | Advanced topics in Time Series Forecasting + Mini Project Presentation             |
| 6    | 26  | 25-Aug-2024 | Computer Vision                     | <b>Time Series Forecasting Practical Evaluation &amp; Theoretical Exam</b>         |
|      | 27  | 26-Aug-2024 |                                     | Image Segmentation and Classification  |
|      | 28  | 27-Aug-2024 |                                     | Optical Character Recognition (OCR)  |
|      | 29  | 28-Aug-2024 |                                     | Object Detection and Localization  |
|      | 30  | 29-Aug-2024 |                                     | Object Tracking and Motion Detections + Mini Project Presentation                  |
| 7    | 31  | 1-Sep-2024  | Natural Language Processing (NLP)   | <b>Computer Vision Practical Evaluation &amp; Theoretical Exam</b>                 |
|      | 32  | 2-Sep-2024  |                                     | Introduction to Natural Language Processing (NLP)                                  |
|      | 33  | 3-Sep-2024  |                                     | Preprocessing and Feature Representation   |
|      | 34  | 4-Sep-2024  |                                     | Natural Language Processing with Probabilistic Models                              |
|      | 35  | 5-Sep-2024  |                                     | NLP with Sequential Models + Computer Vision Mini Project Presentation             |
| 8    | 36  | 8-Sep-2024  | Transformers                        | <b>Natural Language Processing Practical Evaluation &amp; Theoretical Exam</b>     |
|      | 37  | 9-Sep-2024  |                                     | Introduction to Transformers   |
|      | 38  | 10-Sep-2024 |                                     | Encoder Architecture   |
|      | 39  | 11-Sep-2024 |                                     | Decoder Architecture   |
|      | 40  | 12-Sep-2024 |                                     | Fine Tuning Pre-trained Transformers   |
| 9    | 41  | 15-Sep-2024 | Large Language Models (LLMs)        | <b>Transformers Practical Evaluation &amp; Theoretical Exam</b>                    |
|      | 42  | 16-Sep-2024 |                                     | Introduction to Large Language Models (LLM)  |
|      | 43  | 17-Sep-2024 |                                     | Introduction to Multi-Agent LLM  |
|      | 44  | 18-Sep-2024 |                                     | Retrieval Augmented Generation (RAG)   |
|      | 45  | 19-Sep-2024 |                                     | Multilingual Models + Natural Language Processing Medium Project Presentation      |
| 10   | 46  | 22-Sep-2024 | Advanced Deep Learning              | <b>Large Language Models Practical Evaluation &amp; Theoretical Exam</b>           |
|      | -   | 23-Sep-2024 |                                     | Saudi National Day   |
|      | 47  | 24-Sep-2024 |                                     | Markov Decision Processes (MDPs)   |
|      | 48  | 25-Sep-2024 |                                     | ITransformers  |
| 11   | 49  | 26-Sep-2024 | Machine Learning Operations (MLOps) | Location Intelligence + Mini Project Presentation                                  |
|      | 50  | 29-Sep-2024 |                                     | <b>Advanced Deep Learning Practical Evaluation &amp; Theoretical Exam</b>          |
|      | 51  | 30-Sep-2024 |                                     | Introduction to MLOps  |
|      | 52  | 1-Oct-2024  |                                     | Version Control and API Creation   |
|      | 53  | 2-Oct-2024  |                                     | Docker Images and Containers, with CI/CD Pipeline                                  |
| 12   | 54  | 3-Oct-2024  | Capstone Project                    | Advanced Model Deployment and Operational Management + Mini Project Presentation   |
|      | 55  | 6-Oct-2024  |                                     | <b>Final Presentations and Final Exams</b>   |
|      | 56  | 7-Oct-2024  |                                     |  |
|      | 57  | 8-Oct-2024  |                                     |  |
|      | 58  | 9-Oct-2024  |                                     |  |
|      | 59  | 10-Oct-2024 |                                     |  |