

| Data Science And Machine Learning | | | | | | | |
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| Timing: 6.00 PM - 8.30 PM Doubt clearing : End of the Session Trainer : Vinesh | | | | Updated on 14/12/2024 | | | |
| Class | Date | Day | Hrs | Chapter Name | Assignments name | Given date | Submission Deadline |
| No Code Data Science | | | | | | | |
| Class 1 | 14/12/2024 | Sat | 2 | Data Science Pyramid and Job Roles, No-Code Data Science Tool, AI vs ML vs DS vs DL | | | |
| Class 2 | 15/12/2024 | Sun | 2 | Data Cleaning, Data Preprocessing | | | |
| Class 3 | 21/12/2024 | Sat | 2 | Statistical Analysis, Feature Engineering | | | |
| Class 4 | 22/12/2024 | Sun | 2 | Machine Learning Basics, Supervised Machine Learning, Cross-Validation and Model Evaluation | | | |
| Class 5 | 28/12/2024 | Sat | 2 | Feature Importance and Model Interpretation, Unsupervised Machine Learning | | | |
| Class 6 | 29/12/2024 | Sun | 2 | Model Deployment and Maintenance | | | |
| Introduction to Python For Data Science | | | | | | | |
| Class 7 | 04/01/2025 | Sat | 2 | Introduction to Python and Virtual Environment | ASM-1 | 04/01/2025 | 10/01/2025 |
| Class 8 | 05/01/2025 | Sun | 2 | Python Basics | | | |
| Class 9 | 11/01/2025 | Sat | 2 | Python for Data Science, File Handling using Pandas | ASM-2 | 11/01/2025 | 17/01/2025 |
| Class 10 | 12/01/2025 | Sun | 2 | Deep Dive into Python Libraries and its usage for Data Science | | | |
| Class 11 | 18/01/2025 | Sat | 2 | Data Pre-Processing Basics | ASM-3 | 18/01/2025 | 24/01/2025 |
| Class 12 | 19/01/2025 | Sun | 2 | Data Wrangling | | | |
| Data Visualization with Matplotlib and seaborn | | | | | | | |
| Class 13 | 25/01/2025 | Sat | 2 | Introduction to Matplotlib and Seaborn | ASM-4 | 25/01/2025 | 31/01/2025 |
| Class 14 | 26/01/2025 | Sun | 2 | EDA (Exploratory Data Analysis) | | | |
| Class 15 | 01/02/2025 | Sat | 2 | Deep Dive into Plots and its attributes | ASM-5 | 01/02/2025 | 07/02/2025 |
| Class 16 | 02/02/2025 | Sun | 2 | Statistical Analysis and Outlier Detection | | | |
| Class 17 | 08/02/2025 | Sat | 2 | Data Pre-Processing Advanced - Feature Engineering, Dimensionality Reduction (PCA, t-SNE) | ASM-6 | 08/02/2025 | 14/02/2025 |
| Class 18 | 09/02/2025 | Sun | 2 | Pre-Processing Tools: ColumnTransformer and Pipeline | | | |
| Class 19 | 15/02/2025 | Sat | 2 | Case Study 1: Program Guidance Implementing all the above processes | | | |
| Class 20 | 16/02/2025 | Sun | 2 | Case Study 2: Program Guidance Implementing all the above processes | | | |
| Machine Learning Basics | | | | | | | |
| Class 21 | 22/02/2025 | Sat | 2 | Introduction to Machine Learning and its Types | ASM-7 | 22/02/2025 | 28/02/2025 |
| Class 22 | 23/02/2025 | Sun | 2 | Basics of Models, Model Evaluation, and Cross Validation | | | |
| Class 23 | 01/03/2025 | Sat | 2 | Supervised Learning - Regression | ASM-8 | 01/03/2025 | 07/03/2025 |
| Class 24 | 02/03/2025 | Sun | 2 | Supervised Learning - Evaluation Metrics - MSE, F1 score, R2, RMSE, Precision, Recall, Confusion matrix | | | |
| Class 25 | 08/03/2025 | Sat | 2 | Supervised Learning - Classification | ASM-9 | 08/03/2025 | 14/03/2025 |
| Class 26 | 09/03/2025 | Sun | 2 | Supervised Learning - Decision Tree and Ensemble Model | | | |
| Class 27 | 15/03/2025 | Sat | 2 | Supervised Learning - Regularization, Model Performance and Optimization - Overfitting, Underfitting, Pruning | ASM-10 | 15/03/2025 | 21/03/2025 |
| Class 28 | 16/03/2025 | Sun | 2 | Unsupervised Learning - Clustering - KMeans, Hierarchical Clustering, Noise Reduction | | | |
| Class 29 | 22/03/2025 | Sat | 2 | Unsupervised Learning - Evaluation Metrics - Cross Validation and Confusion Matrix | ASM-11 | 22/03/2025 | 28/03/2025 |

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| Class 30 | 23/03/2025 | Sun | 2 | Hyperparameter Tuning - Grid Search, Bayesian, Random Search | | | |
| Class 31 | 29/03/2025 | Sat | 2 | Basics of Model Deployment | ASM-12 | 29/03/2025 | 04/04/2025 |
| Class 32 | 30/03/2025 | Sun | 2 | Case Study 3: Program Guidance Implementing all the above processes | DSP-001 | 30/03/2025 | 20/04/2025 |
| Advanced Topics | | | | | | | |
| Class 33 | 05/04/2025 | Sat | 2 | Time Series Analysis and Forecasting | | | |
| Class 34 | 06/04/2025 | Sun | 2 | Introduction to Deep Learning, Neural Network, and NLP | | | |
| Class 35 | 12/04/2025 | Sat | 2 | Final Project - Day 1 - Presentation | | | |
| Class 36 | 13/04/2025 | Sun | 2 | Final Project - Day 2 - Presentation | | | |
| BONUS | | | | | | | |
| Class 37 | 19/04/2025 | Sat | 2 | Cloud Introduction | | | |
| Class 38 | 20/04/2025 | Sun | 2 | Fundamentals of Power BI and Tableau | | | |
| Class 39 | 26/04/2025 | Sat | 2 | Fundamentals of DB (SQL and No SQL) | | | |
| Class 40 | 27/04/2025 | Sun | 2 | Jenkins or Concourse Tool | | | |
| Class 41 | 03/05/2025 | Sat | 2 | GitHub | | | |