**🗓️ Training Duration**

* **Total Duration**: 25–30 hours
* **Mode**: Online / In-person / Self-paced
* **Tools Required**: Python (Anaconda/Jupyter), scikit-learn, pandas, NumPy, matplotlib, seaborn

**📚 Module Breakdown**

**🧩 Module 1: Introduction to Machine Learning**

* What is ML? Why ML now?
* Types of ML: Supervised, Unsupervised, Reinforcement (overview)
* Traditional programming vs. ML
* Applications of ML in real life (e.g., spam filters, recommendation engines)

**🧮 Module 2: Python for ML (Mini Refresher)**

* Python basics (if-else, loops, functions)
* NumPy: arrays, math functions
* Pandas: DataFrames, loading datasets, filtering
* Matplotlib & Seaborn: basic plotting

**📊 Module 3: ML Workflow**

* Understanding a dataset
* Data collection, preparation, and cleaning
* Feature selection and engineering
* Train/Test split
* Model training, evaluation, and tuning

**🔍 Module 4: Supervised Learning – Regression**

* Concept of regression
* Simple Linear Regression
* Multiple Linear Regression
* Evaluation metrics: MAE, MSE, R²
* Hands-on: Predicting house prices

**🧠 Module 5: Supervised Learning – Classification**

* Concept of classification
* Logistic Regression
* K-Nearest Neighbors (KNN)
* Decision Trees & Random Forest (basic)
* Evaluation metrics: Accuracy, Precision, Recall, F1, Confusion Matrix
* Hands-on: Predicting loan approval or customer churn