



ARTIFICIAL INTELLIGENCE & MACHINE LEARNING INTERNSHIP PROGRAM

1. Program Overview

Program Name	AI & Machine Learning with Generative AI
Program Type	Internship Training
Daily Schedule	3 Hours per Day (Mon-Fri)
Fee Structure	₹2000 + GST (Per Student)
Eligibility	Ongoing / After [Diploma, B.Tech & B.Sc Students]
Certification	NIELIT Internship Completion Certificate

2. Prerequisites

- Basic familiarity with any programming language (C, C++, Java, or Python) - syntax level only.
- Class 11–12 Mathematics: functions, basic statistics (mean, median), and simple graphs.
- No prior Artificial Intelligence or Machine Learning knowledge required.

3. Key Focus Areas

- Python Programming for Data Science & Machine Learning
- Core ML Algorithms: Regression, Classification & Clustering
- Data Preprocessing & Feature Engineering with Pandas & Scikit-learn
- Introduction to Generative AI & Prompt Engineering
- Using AI Tools (ChatGPT, Claude, Gemini) to Learn and Build Projects
- Hands-on Group Project + Individual Capstone with Viva

4. Program Curriculum & Outcomes

Phase	Hours	Topics Covered	Expected Outcomes
Week 1: Python & ML Basics	15 Hrs	AI vs ML vs Deep Learning, Types of ML. Python: variables, lists, loops, functions. NumPy: arrays & operations. Jupyter Notebook setup.	Upload first Python script; explain difference between AI, ML and Deep Learning.
Week 2: Data Handling	15 Hrs	Pandas: DataFrames, CSV reading, data cleaning. Matplotlib & Seaborn: charts, heatmaps. Preprocessing: normalization, encoding, train-test split.	Clean and visualize a real dataset; build a full preprocessing pipeline.
Week 3: ML Algorithms	15 Hrs	Linear Regression, Logistic Regression, Decision Tree, K-Means Clustering. Model Evaluation: Accuracy, Confusion Matrix, Overfitting & Underfitting.	Train and evaluate at least two ML models on a real dataset.



Week 4: GenAI + Projects	15 Hrs	Generative AI concepts, Prompt Engineering, AI coding tools (ChatGPT, Copilot, Gemini). Group project (Days 16-18). Solo capstone build & viva (Days 19-20).	Present a working ML project with cloud AI assistance; clear viva questions.
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5. Project Examples

Project	Tools / Skills	What It Does	Module
Student Marks Predictor	Pandas, Linear Regression, Seaborn	Predicts exam score from study hours and attendance.	Week 3
Spam Email Classifier	Text processing, Logistic Regression	Classifies SMS or email as spam or not spam.	Week 3
Customer Segmentation	K-Means Clustering, Matplotlib	Groups customers by spending pattern for marketing.	Week 3
Diabetes Risk Predictor	Decision Tree, Confusion Matrix	Predicts diabetes risk from patient health data.	Week 3
House Price Estimator (Group Project)	Pandas, Linear Regression, ChatGPT	Estimates house price from area, rooms, and location. Built with mentor.	Week 4