



Vishlesan i-Hub
Indian Institute of Technology, Patna

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Learn in తెలుగు

Certification in Artificial Intelligence and Machine Learning (Telugu)

From Vishlesan i-Hub, IIT Patna



About IIT Patna, Vishlesan i-Hub

National Innovation Hub: Vishlesan i-Hub at IIT Patna is part of a national mission, advancing AI in speech, video, and text analytics for sectors like health, education, and security.

Premier Technical Institute: IIT Patna is one of India's top engineering institutes, known for its cutting-edge research and strong academic foundation.

Strong Industry & Research Ecosystem: With active collaborations, incubators, and innovation hubs, IIT Patna bridges academia and industry to drive real-world impact.

Program Overview

The foundations in Artificial Intelligence and Machine Learning Program is designed to accommodate learners from diverse academic and professional backgrounds. Through structured coursework and hands-on projects, students will build a solid understanding of Artificial Intelligence (AI) and Machine Learning (ML) techniques, starting from foundational mathematics and basic programming, progressing through core machine learning models, and culminating in cutting-edge AI applications. By the end of the program, participants will be able to confidently implement AI/ML solutions, interpret results, and address real-world problems across various domains.



Why Choose This Course?

- Prestigious certification* from Vishlesan i-Hub, IIT Patna
- Expert faculty and industry insights
- Real world capstone projects designed to solve practical challenges
- Delivery in Telugu, learn from experts who speak your language
- Placement assistance, resume reviews, coaching
(Eligibility: 7 CGPA, 65% attendance)

**Certificate Eligibility: Minimum 65% overall attendance and 30% marks in cumulative evaluations score*

What Will You Learn?

Go from zero to job-ready in AI/ML with beginner-friendly, industry-aligned curriculum from I-Hub IIT Patna, taught in Telugu – covering Python, data analysis, machine learning, and generative AI with hands-on projects. Built for beginners, designed to get you building real things fast.

Toolkit



Course Summary

Course Duration
4 months

Weekly Commitment
10 Hours/Week

Certification
From Vishlesan i-Hub, IIT Patna

Course Syllabus

Module 1: Foundations of Data

- AI vs ML vs GenAI landscape Git/GitHub/CLI VS Code/Colab environments & secrets
- Python for Data (types, flow, functions, files) · notebooks discipline
- NumPy + pandas (indexing, joins/merge, groupby, missing values)
- SQL lite (SELECT/WHERE/GROUP BY + one JOIN) · spreadsheets (pivots, XLOOKUP) · pandas ↔ SQL mental model
- Plotting & storytelling (matplotlib/plotly) · EDA checklist
- APIs (requests, JSON) + basic ethics/ToS · ingest → clean → EDA snack app (optional Streamlit)

Mini Projects

- CryptoWatch: Real-Time Market Sentiment Tracker
- FoodSafety Insights: Restaurant Inspection Intelligence
- TrendPulse: What Is Actually Trending Right Now

Module 2: Classical ML

- ML workflow & habits: problem framing, train/validation/test split, baselines, cross-validation, metric tables
- Data prep: missing values, duplicates, categorical encoding, scaling, leakage guard, simple feature engineering (dates, counts), class imbalance basics
- Regression: Linear Regression + regularization; metrics MAE/RMSE/R²; quick error analysis
- Classification: Logistic Regression; Trees & Random Forests; metrics accuracy, precision/recall, F1, ROC-AUC; threshold tuning
- Model comparison & selection: choose by metric + simplicity

Mini Projects

- ChurnGuard — Predicting Customer Exit Before It Happens
- LoanLens — Automated Credit Risk Assessment
- RentRight — Predicting Fair Apartment Prices

GenAI & Agents

- LLM fundamentals: tokens, context windows, temperature/top-p, cost/latency basics
- Prompting patterns: role, few-shot, CoT; tiny prompt-eval set
- Agents 101 (basics): single agent, 1–2 tools, JSON schemas, retries/backoff, hard stop; mini-build (CSV Analyst or FAQ Helpdesk)
- Function/Tool calling: structured outputs (JSON/validation), idempotent tool design
- Shipping Sprint (FastAPI): wrap the agent as an API (/chat) with Pydantic schemas, env/secrets, logging + request IDs; deploy to Render or HF Spaces; run a 10-prompt live eval
- RAG 101: embeddings, chunking, retrievers, vector stores; RAG eval (answer correctness & context recall), semantic search
- Agents + RAG: reuse the Agents 101 loop with a retriever tool; same eval harness
- Orchestration (intro): LangGraph basics—nodes, transitions, retries; ship a small agent flow

Mini Projects

- DataGenie — Natural Language Data Analyst
- SupportAI — Intelligent FAQ Helpdesk Agent
- ResearchPilot — Automated Market Research Agent

Multi-Model Answerboard (AI Fiesta-style)

One chat, multiple model answers side-by-side with cost/speed badges; toggle RAG for cited answers and add smart routing + A/B prompt

English & Soft Skills Training

Everyday English for Self-Expression

Learn how to talk about yourself comfortably and confidently in common situations

Building Clear and Correct Sentences

Strengthen sentence formation so your English sounds natural and complete

Speaking with Impact and Awareness

Learn to organise thoughts, speak smoothly, and communicate with confidence

Professional Communication & Soft Skills

Apply spoken English skills to professional and workplace-like situations

Meet our Instructor Team



Aravind Samudrala
Software Engineer, Google

Aravind is a software engineer skilled in building reliable, high-performance systems at global scale.



Balaji Chippada
Senior Data Scientist, Warner Bros Discovery

Balaji is a senior data scientist with extensive experience in building large-scale data and AI solutions.



Prasad Seemakurthi
Ex Software Engineer, Navi

Prasad is an industry professional experienced in developing scalable software solutions in fintech.

**Note: Instructors teaching your batch may change based on specific module expertise, or circumstances such as personal emergencies, unavailability etc.*

Admission Process



Clear Qualifier Test

Clear the qualifier test to be eligible for the program



Complete Counselling

Only shortlisted candidates go through the counselling process.



Start Learning

Learn from India's top educators and stand out from the crowd

Fees Structure

Qualifier Test Fee		₹49	
Non-refundable			
		Option 1	Option 2
		Upfront	EMI (Through our NBFC partners)
Registration Fee	Non-refundable	₹2,499	₹2,499
Program Fee	Non-refundable	₹23,000	₹8,127 x 3 months
Total Fees	Non-refundable	₹25,499 + GST	₹26,880 + GST

*GST at 18% extra, as applicable

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