



Generative AI

Learn by Doing

Generate

Summary :

An immersive, interactive course intended to take participants from Python foundations all the way to the construction and deployment of advanced generative AI (GenAI) applications. Participants will receive robust theoretical foundations and strong practical exposure through structured modules, real-world assignments, and a capstone project. Perfect for current and aspiring AI engineers, researchers, and professionals.

BROAD TOPICS

Core Technical Concepts :

- Python programming, data structures, machine Learning fundamentals, neural networks
- Deep learning concepts and training methods
- RNNS, LSTMS, GRUs, and sequence modeling
- Transformer architecture, foundation models
- Fine-tuning strategies: LORA, QLORA, Hugging Face workflows

Tools, Applications & Ethics :

- LangChain components and LangChain Expression Language (LCEL)
- Prompt engineering and LLM applications
- Retrieval-Augmented Generation (RAG): embeddings, vector databases, hybrid search
- Multi-agent systems: agent design, communication, coordination
- Model deployment: APIs, scaling, monitoring

SIMULATION MODULES

Core Frameworks & Tools :

- Python - foundational scripting and logic building
- LangChain - modular framework for building LLM applications
- Hugging Face Transformers pre - trained model integration and fine-tuning
- Jupyter Notebooks - interactive development and experimentation

Hands-on Modules :

- Text Processing & NLP Tasks
- Neural Network Implementation
- Text Generation Models
- Prompt Engineering Simulations
- Retrieval-Augmented Generation (RAG)
- Fine-tuning Exercises
- Model Deployment, multi-agent Interaction Simulations

Certification :



Eligibility :

- UG students in Computer Science, Electronics, Electrical Engineering, or related disciplines
- PG/Research Scholars specializing in Machine Learning, AI, Data Science, or related fields
- Working Professionals aiming to advance skills in Generative AI and LLM applications
- Entrepreneurs and Startup Teams interested in developing GenAI solutions for business challenges

Internship Certification (On Request) :

Upon successful submission of Mandatory Project for Students & Freshers.

Registration Link :

https://ktech.click/course_details/687f56140e4f9dd27e8b0018

Registration Fees :

Students:
INR 500 + 18% Gst = 590

Working Professionals:
INR 1000 + 18% Gst = 1180

Timing and Schedule :

Timings- 3 days a week (2 Hours per day)

Recording accessible, doubt clearing and interaction sessions

Weekly Quizzes, Simulation Modules with online demonstrations

Platform: Ktech

Program Fees :

Students: INR 10k + 18% Gst*

Working Professionals: INR 30k + 18% Gst*

Special Discounts for Students*

* Conditions Apply

Program Coordinators :

Prof. Mrigank Sharad, Mr. Ankit Soni

Email: mrigank@see.iitkgp.ac.in

Dr. Piya Sen

Email: piya.sen@ktech.ltd

Phone No.: 8584979746

Course Begins :

16th March 2026

Website :

www.ktech.click