



**Electronics & ICT Academy**  
**Indian Institute of Technology Guwahati**  
An Initiative of Ministry of Electronics & Information Technology(Meity)

**Advanced Certification**

# **Applied Generative AI Course**

**6 months**

**Online Instructor Led  
Industry-Aligned**



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# A PROGRAM DESIGNED TO PREPARE YOU FOR THE FUTURE OF TECH

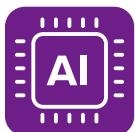
E&ICT, IIT Guwahati's comprehensive Advanced Generative AI with RAGs and Llangchain course is tailored for individuals seeking to stay competitive in the evolving job market and unlock new opportunities for professional growth.

This hands-on program includes a curriculum that is carefully curated in consultation with the industry. The expert-led program helps you gain hands-on experience with cutting-edge tools and techniques, and enhance your career prospects in this rapidly expanding field.



In India, the demand for AI professionals has surged by **60%** in just the past year, with an anticipated **1.2 million** new jobs in AI-related fields by 2030.

# PROGRAM HIGHLIGHTS



Learn how to **build and deploy GenAI models**



Get certified from a **NIRF top 10 rated** institution



**Live classes** every weekend for interactive learning



**6 months** and **200+ hours** of in-depth hands-on learning



Learn from industry leaders and **IIT Guwahati faculty**



**Curated curriculum** with in-demand tools and technologies



**Live doubt clarification** sessions with instructors



Learn through **projects, case studies and hackathons**



**Immersion Program** at the prestigious IIT Guwahati Campus



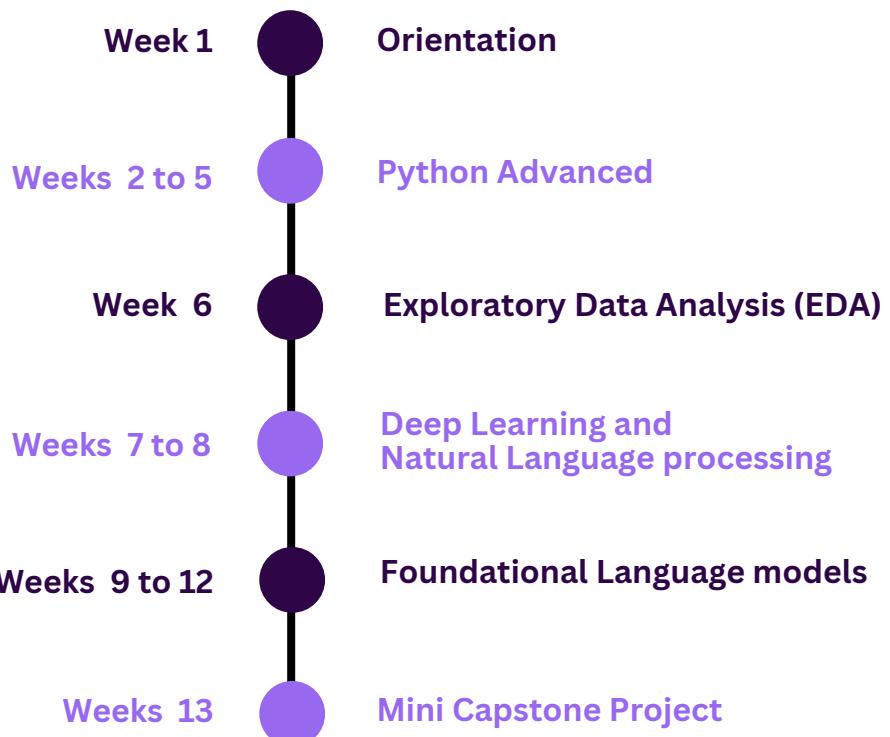
Get career services including **placement assistance**



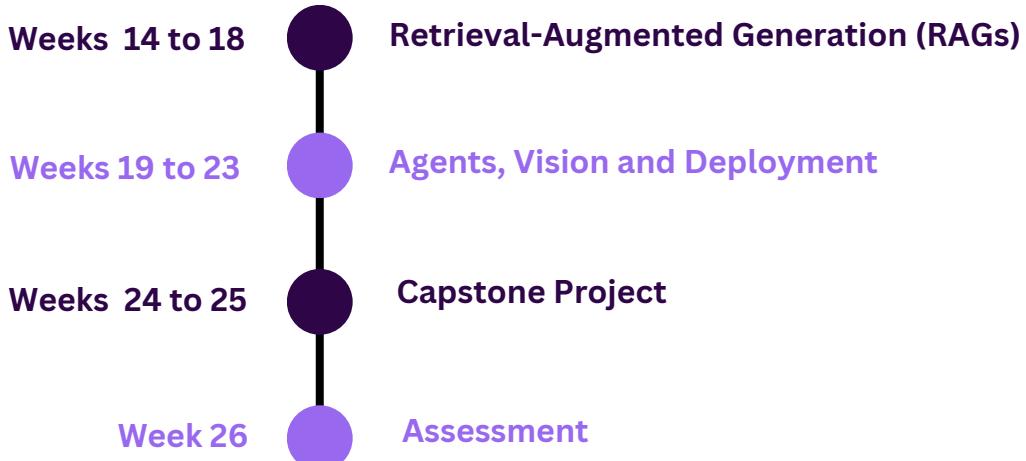
**IIT Guwahati E&ICT Academy** Alumni Status

# LEARNING PATH

## PHASE I THE FUNDAMENTALS 13 WEEKS



## PHASE II GENERATIVE AI 13 WEEKS



## 2 DAY GRADUATION AND CAMPUS IMMERSION, AT IIT GUWAHATI CAMPUS

After successfully completing the program, learners can attend a 2-day Campus Immersion Program at IIT Guwahati as per the timelines set by IIT Guwahati.



# Curriculum

## Orientation

- Introduction to Curriculum & Program structure
- Getting familiar with the LMS & Odin Labs
- A walk through of a GenAI product and the engineering behind it

## Python Advanced

- Recursion
- Lambda Functions
- Higher Order Functions
- Numpy
- Pandas
- Date-time
- Regular Expression
- OOPs- class, Object, Principles of OOPS
- Decorators, Exception Handling, File Handling, Generators

## Exploratory Data Analysis (EDA)

- Data pre-processing and exploration
- Handling missing values
- Handling outliers
- Dealing with categorical variables
- Introduction to ML and SKlearn
- Handle Date columns and column with multiple values
- Feature Scaling
- Covariance & Correlation
- EDA Project

## Foundational Language Models, Fine tuning

- Foundational Language Models
  - LLAMA3 Instruct 8B / 70B
  - LLAMA3 Chat
  - LLAMA3 code
  - E5 embedding
  - MIXTRAL 8X7B
  - SLMs (PHI3, bitNet B1.58)
- Planning & Reasoning
- Transformer Architecture
- Types of Attention
- Types of positional embedding
- Long context
- Enhancing LLM throughput on GPUs
  - KV Cache
  - Flash attention
  - VLLM
  - TRT LLM
  - Input / Op token length
  - Tokenisation strategies
  - Long rope
- Para Efficient Fine tune (LORA, P tuning, finetuning of embedding models)

## Deep Learning (DL) and Natural Language Processing (NLP)

- Perceptron indepth intuition and implementation
- Multi-layer perceptron (ANN)
- RNN and its tyes
- Introduction to nltk, spacy libraries
- Tokenization
- Word embeddings
- Small project to create word embeddings

## RAGs

- Alignment
  - RLHF
  - DPO
  - RPO
- RAGs
  - Advanced ingestion
  - Chunking
  - Embedding
  - Search
  - Ranking
  - Generation
  - Evaluation
- RAG frameworks
  - LLANGCHAIN basics
  - LLAMAINDEX
  - LLANGRAPH

## Agents, Vision, and Deployment

- Agentic workflows and function calling
  - LLANGCHAIN advanced
  - AUTOGEN
- Gen ai for Images and videos
  - CLIP
  - UNETS
  - Diffusion models
- Containerised deployment and Kubernetes
- LLM deployment

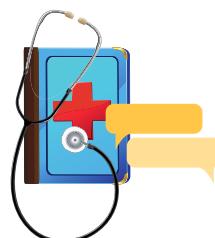
# Learn In-Demand Tools and Technologies



## 25+ Projects and Case Studies for Hands-on Experience



Create an interactive application that allows users to query a specific website and receive contextually relevant responses



Develop an intelligent conversational interface for accessing medical information from a medical book



Simplify database querying by allowing users to input questions in plain English and receive corresponding SQL queries and results.



Provide an intuitive interface for exploring and understanding a code repository through conversational interactions

# CAREER SERVICES

Career services give you the boost that you need to grow your career in the field of Generative AI.

## Workshops on Workplace Behavioural Skills

Hone your personality to excel in a competitive work environment

## Professional Profile Building

Learn how to build and optimise your resume and LinkedIn profile to get access to career opportunities

## Interview Preparation

Participate in mock interviews by industry professionals and gain confidence to face your next big interview

## Industry Connect

Attend OdinTalk sessions every week and interact with industry experts to see how technologies are implemented

## OdinSchool's Job Portal

Find the latest 100+ job opportunities in Data Science and AI. Get shortlisted and crack that job

## Mentorship

Get mentored by professionals and leverage the insights to transform yourself into a sought after professional

## The Program Sets You on a Path for Multiple Job Roles



AI Developer



AI Engineer



AI Consultant



GenAI Developer



Applied AI Researcher



AI Architect



Data Scientist



ML Engineer



AI Solution Developer

# ELIGIBILITY

You are eligible for the program if you are graduate with at least 50% aggregate in your graduation

A background in mathematics or computer science is preferred but not mandatory.

**The program is highly recommended for working professionals in the below job roles:**

Data analysts

Team leaders in tech companies

Software Developers

Python Developers

Software Consultants

Database managers and administrators

Business analysts

Junior Data Scientists

ML Developers

Data Engineers



Generative AI has the potential to change the world in ways that we can't even imagine. It has the power to create new ideas, products, and services that will make our lives easier, more productive, and more creative. It also has the potential to solve some of the world's biggest problems, such as climate change, poverty, and disease. The future of generative AI is bright, and I'm excited to see what it will bring.

-Bill Gates



# LEARN FROM THE EXPERTS



**Dr. Gaurav Trivedi**  
Principal Investigator  
E&ICT Academy, IIT Guwahati



**Dr. Mohit Sevak**  
GenAI Expert  
Nvidia



**Dr. B S A S Rajita**  
Lead Faculty  
OdinSchool



**Dr. Deepthi Chimalakonda**  
Head - Carbon & Biodiversity  
Arkadiyah Technology



**Dr. Sandeep Singh**  
Lead Faculty  
OdinSchool



**Anidunnisa Begum**  
Lead Faculty  
OdinSchool



**Amit Goyal**  
Senior Data Science  
Consultant



**Dadavali Sheikh**  
Senior Data Engineer  
LTI MindTree



**K Sangamesh**  
Founder and CEO  
KS Analytical Consulting



**Naval Yemul**  
DataBricks Instructor  
DataBricks

# TESTIMONIALS AND SUCCESS STORIES

“Throughout my life, I've been fascinated by the realms of AI, inspired by its portrayal in science fiction and its real-world applications. This curiosity propelled me to delve deeper into the inner workings of these technologies, steering my academic journey toward a four-year immersion in Computer Science. However, despite my passion, I recognized a gap in the technical skills demanded by prospective employers. It was this realization that led me to OdinSchool, a pivotal decision that I am profoundly grateful for.

But it wasn't just about learning. OdinSchool also helped me get ready for the real world. Their career support was top-notch. From fixing up my resume to doing practice interviews, they had my back through it all.”

-Dibyajit, OdinGrad, Sep 2023

“I attribute much of my success to the comprehensive education and unwavering support I received throughout my journey with OdinSchool.

The teachers' unwavering support, personalized guidance, and willingness to go the extra mile ensured that I was never left wanting for assistance, even when grappling with complex concepts or challenging assignments.

Thank you, OdinSchool, for empowering me to realize my dreams and embark on a transformative journey of professional growth and fulfillment.”

-Drishti Rawat, OdinGrad, Aug 2023

“The curriculum is prepared in such a way that even non IT guy can learn all these technologies and they start from basic then gears up to advanced topics. The trainers also have vast knowledge in their respective subjects and they will clear all your doubts in the session itself and even if you get doubts during practice then you will have doubt sessions every week where your doubt will be addressed.

My message to new joiners who are willing to join Odin School is they will provide each and every thing you need for your preparation but you have to be true towards your preparation and be patient.”

-Thummaluru Haswanth, OdinGrad, May 2023

“One aspect that truly sets Odin School apart is its commitment to fostering a supportive and inclusive learning environment. The faculty, comprising distinguished professionals and mentors, spared no effort in guiding and nurturing students every step of the way. Whether it was through insightful lectures, interactive workshops, or one-on-one mentoring sessions, they went above and beyond to ensure that each student reached their full potential.”

-Subham Chowdhury, OdinGrad, Jan 2024

# GET CERTIFIED BY E&ICT, IIT GUWAHATI



## ENROLMENT PROCESS

Step 1

Submit the application form

Step 2

Talk to our counsellors and review eligibility

Step 3

Complete documentation and pay the fee

Step 4

Receive Admission Letter and start learning

## FEE AND SCHOLARSHIPS

**INR 1,20,000 + GST**

Contact us to avail Scholarships  
Easy finance and Zero-Interest EMI facility available

## COURSE SNAPSHOT

**START DATE:** Refer to the Course Page on the Website

**DURATION:** 6 Months (26 weeks, 300+ hours)

**ELIGIBILITY CRITERIA:** Bachelors degree with an aggregate of at least 50% academic aggregate  
Math or Computer Science background and knowledge of Descriptive Statistics, Linear Algebra, SQL, and Python is preferable

**WEEKLY SCHEDULE:** Live online sessions on Saturdays and Sundays  
Doubt clarification, project reviews, and industry interaction on weekdays

**SCHOLARSHIPS:** Scholarships and Flexible EMI options available.  
Reach out to our counselors for more details on +91 935 501 1033.

## CONTACT

OdinSchool, GreyCampus Edutech Pvt. Ltd., Aikya

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