DEFENCE INSTITUTE OF ADVANCED TECHNOLOGY (DU), PUNE

DIAT Online Professional Certification Course in Applied LLM, Gen AI and Agentic AI

Course Duration: 12 weeks [3 hours of live interactive lectures per week]
Dates: June 13 – August 29, 2026 [every saturday 2.00-5.00 pm]

Non-Refundable Registration fee to confirm enrollment: Rs. 2500/- [Deadline: 20 May 2026]

ENROLL HERE: https://forms.gle/p3NNtBQmmj7dcAFd7

Seats are limited and selection will be on a first come first serve basis

The following course fee is to be paid respectively by enrolled candidates [Deadline: 30 May 2026]:

1)Working Professional [Govt/Industry/others]: Rs. 45,999/-
2)Students: Rs. 25,999/-
3)DIAT Faculties/Student: Rs. 9999/-

Pre-requisite: B.Sc./B.E/B.Tech/M.Sc./M.E./MTech/MCA/PhD in any discipline with proficiency in coding in any one software language like python/C/C++ etc.

LEARN FROM INDUSTRY EXPERTS, DRDO SCIENTISTS AND ACADEMICIANS

For any queries, contact: Dr Sunita Dhavale, Course Coordinator and Chair, online & blended course, ITP, DIAT, Pune.
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AI TECHNOLOGICAL NATIONAL SKILL DEVELOPMENT IS OUR MOTTO

Institute Website: www.diat.ac.in
Course Website: https://sites.google.com/view/sagardrishya/home/online-professional-certification-course

DETAILED SYLLABUS

- Week 1: AI Foundations & Modern AI Systems - evolution of AI and the structure of modern AI systems, including Machine learning, Deep Learning, and Data Analytics. The session also covers key concepts behind generative models and how AI is used in real products today.
- Week 2: Large Language Models & Applications - This week explores Large Language Models, their capabilities, and limitations. Students study real-world use cases such as chatbots, co-pilots, and AI assistants.
- Week 3: Prompt Engineering & Output Control, Students learn prompt engineering techniques to guide and control LLM behaviour. The focus is on structured prompts, constraints, and reliable output generation.
- Week 4: Multimodal AI & Image Generation -This module introduces multimodal AI concepts, including text-to-image systems. Students explore workflows involving image generation and multimodal reasoning.
- Week 5: Text Intelligence Using LLM APIs, Students work with LLM APIs to build text-based intelligence systems. Topics include summarisation, classification, extraction, and conversational interfaces.
- Week 6: Embeddings & Semantic Search This week focuses on embeddings and vector representations. Students build semantic search systems to retrieve relevant information based on meaning rather than keywords.
- Week 7: Retrieval-Augmented Generation (RAG)- Students learn RAG architectures that combine retrieval with generation. The session covers document ingestion, retrieval pipelines, and response grounding.
- Week 8: AI Systems with External Knowledge Sources - This module focuses on integrating AI systems with databases, files, and APIs. Students learn how AI systems access and reason over external knowledge.
- Week 9: Agent-Based Workflows & Tool Use - Students explore agentic systems where AI models plan, decide, and take actions using tools. Topics include task decomposition, tool calling, and multi-step workflows.
- Week 10: Supporting ML Pipelines for AI Systems - This week introduces machine learning pipelines that support AI systems, including data flows, evaluation, and monitoring concepts essential for production readiness.
- Week 11: Responsible AI & Deployment Basics - Students learn responsible AI principles such as bias, safety, reliability, Decision tree models and responsible ai. The session also introduces basic deployment considerations for applied AI systems.
- Week 12: Capstone Project Demonstration - The course concludes with capstone project demonstrations. Students present applied AI systems showcasing retrieval, reasoning, and agent-based capabilities.

ABOUT DIAT, PUNE

The Defence Institute of Advanced Technology (DIAT), Pune, is a premier deemed university under the Department of Defence Research & Development, Ministry of Defence, Government of India, with a strong emphasis on Atmanirbhar Bharat through indigenous R&D projects. Established in 1952, it specialises in advanced defence technologies and offers postgraduate (M.Tech, PhD) and research programs in areas such as Artificial Intelligence, Cyber Security, Aerospace, Sensors, Defence Technologies, and armaments. DIAT aims to foster indigenous, state-of-the-art technologies for the Armed Forces, DRDO, and the defense industry, acting as a premier center for education and research. DIAT is accredited with an A+ grade by NAAC and approved by AICTE. It was ranked 63rd in the engineering category by NIRF in 2024.

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