



AI RESEARCH CENTRE

WOXSEN UNIVERSITY

ONE-YEAR ONLINE PG CERTIFICATE PROGRAM

Generative AI & Large Language Model (LLM) Engineering



This program prepares professionals to design, build, fine-tune, deploy, and govern Generative AI and LLM-based systems used in real-world enterprise applications.

This is a specialist GenAI program, designed for learners who want to work directly with LLMs, RAG systems, agents, and production-grade GenAI pipelines.

Program Duration

1 Year | 2 Terms | Fully Online

Eligibility

- Any UG degree recognized by UGC
- Strongly recommended:
 - Prior exposure to Python and ML concepts
 - Software, data, or ML professionals
- Bridge modules available for eligible learners

Fees

- INR 75,000 – Indian Learners
- USD 1,200 – International Learners

Capstone Project

Production-Grade Generative AI / LLM System
(LLM application with RAG, agents, safety layers, and monitoring)

Target Group

- Software engineers, ML engineers, and data scientists
- AI product and platform engineers
- Professionals building GenAI-powered applications
- Developers specializing in LLM-based systems

Career Outcomes

Graduates are prepared for roles such as:

- Generative AI Engineer
- LLM Engineer / LLM Specialist
- GenAI Solutions Engineer (Entry-Level)
- Agentic AI Engineer
- Applied LLM Research Engineer

Skills Gained

- Transformer architectures and modern NLP
- Advanced prompt engineering and evaluation
- LLM fine-tuning and adaptation strategies
- Retrieval-Augmented Generation (RAG) systems
- Vector databases and hybrid search
- Agentic AI and workflow orchestration
- LLM Ops: monitoring, reliability, and cost control
- GenAI governance, safety, and compliance
- Responsible AI foundations (mandatory)

Curriculum Structure

Term I – Foundations of Generative AI & LLMs

- Python for AI Systems & Data Pipelines (4 Credits)
- Mathematical Foundations for Generative Models (Linear Algebra, Probability, Optimization) (4 Credits)
- Modern NLP & Transformer Architectures – 4 Credits
- Advanced Prompt Engineering & Evaluation – 4 Credits
- LLM Frameworks & Ecosystem (LangChain, Hugging Face) – 4 Credits
- AI Problem Framing & Solution Design Lab (2 Credits)

Outcome:

Learners understand how LLMs work and how to control them effectively.

Term II – LLM Applications, Agents & Governance

- Building Production-Grade LLM Applications – 4 Credits
- Retrieval-Augmented Generation & Hybrid Search – 4 Credits
- Agentic AI & Multi-Agent Systems – 4 Credits
- GenAI Governance, Safety & Compliance – 4 Credits
- Capstone Project – LLM / GenAI System – 6 Credits

Outcome:

Learners can design, deploy, and govern enterprise-grade GenAI systems.

Capstone & Internship

Industry LLM / GenAI Capstone

- Enterprise-grade GenAI application
- Includes:
 - system architecture design
 - prompt and retrieval strategies
 - safety and governance layers
 - monitoring and cost controls
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Internship Option

- Eligible graduates may opt for a 6-month to 1-year in-person internship with the AI Research Centre, Woxsen University
- Top 3 candidates may receive a stipend of ₹15,000 per month
- Focused on GenAI research, product development, or governance-aligned projects
- Free mentorship during the internship period

Learning & Evaluation

- Online lectures, hands-on labs, and design reviews
- Continuous assessment: 30%
- End-term examination and capstone: 70%

Award & Credential Verification

Postgraduate Certificate

Issued by Woxsen University – AI Research Centre

All certificates issued under these programs are digitally recorded and verified using blockchain-based credentialing infrastructure, enabling:

- Secure, tamper-proof certification records
- Online credential verification from anywhere in the world
- Instant verification by employers, institutions, and partners
- Protection against credential fraud and misrepresentation

This ensures global credibility, long-term verifiability, and trust in the academic credentials issued by Woxsen University.

Facilitators:

Dr. Hemachandran K

Director – AI Research Centre | Vice Dean – School of Business

Program Lead : AI Agents, Prompt Engineering, NLP, Machine Learning and Responsible AI

Dr. Hemachandran K is the Director of the AI Research Centre and Vice Dean at Woxsen University, with over 15+ years of experience spanning AI research, industry projects, and global policy advisory. A UNESCO Expert, European Commission technology advisor, and AI Accelerator Institute Ambassador, his expertise includes NLP, Computer Vision, Generative AI, autonomous systems, and responsible AI governance. He has authored 25+ books, filed 80+ patents, and led large-scale AI deployments across healthcare, aviation, smart cities, and education.

Dr. Rajesh Kumar K V

Chief Technology Officer – AI Research Centre

Lead Faculty: Applied AI, Data Science, GenAI & AI Engineering

Dr. Rajesh Kumar K V is the Chief Technology Officer at the AI Research Centre with 12+ years of experience in AI product development, analytics, and enterprise transformation. A Certified Scrum Master and SAFe practitioner, he specializes in LLM-powered systems, agentic AI, analytics platforms, and MLOps-oriented deployments. He has worked across healthcare, defense, sports analytics, and digital transformation projects, bridging research with scalable enterprise AI solutions.

Dr. Shyam Joshi

Research Scientist – AI Research Centre

Lead Faculty: Deep Learning, AI Systems, Robotics & Multi-Agent Systems

Dr. Shyam Joshi holds a PhD from IIT Delhi and is a former Postdoctoral Researcher at Scuola Superiore Meridionale, Naples. His research spans deep learning, pattern recognition, computational neuroscience, synchronization theory, robotics, and multi-agent systems. He has held research roles at IIT Jodhpur and national innovation hubs, and is an inventor on multiple AI and robotics patents, including necrobotics-based systems and intelligent monitoring solutions.

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