ISDM Independent Skill Development Mission NXT

EMPOWERING FUTURES,
SHAPING TOMORROW

★ AI-INTEGRATED COURSE

NXT CERTIFIED GENERATIVE AI & LLM APPLICATION DEVELOPER

Build practical AI skills for work, business and beyond

Duration: 1 Year | **Certificate** · Advanced | **Eligibility:** Suitable for learners interested in software development and

OVERVIEW OF THE COURSE

Learn to build AI-powered software with large language models (LLMs), AI APIs, embeddings, and Retrieval-Augmented Generation (RAG). Over this one-year program, develop practical skills for creating intelligent chatbots, document question-answering systems, and custom AI applications. Build and refine projects using Git and GitH...

- Explain core concepts behind generative AI and large language models.
- Integrate LLMs into software applications using AI APIs.
- Create embeddings and use them to retrieve relevant information.
- Design and implement Retrieval-Augmented Generation (RAG) workflows.
- Build intelligent chatbots and document question-answering systems.



1 Year	12	4	16
DURATION	SUBJECTS	PROJECTS	TOOLS

JOIN NOW →

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WE ARE AVAILABLE AT
600+ LOCATIONS

NOT SURE WHICH COURSE IS RIGHT FOR YOU?
Choose the Best Course for You - Try our AI-Powered Career Counselling for FREE

Start free →

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Scan to enquire

COURSE CURRICULUM

What you will learn

01 Subjects → | 02 Projects → | 03 Tools → | 04 AI Integration

01 Subjects & modules

10 subjects with the topics you will learn

01 Python & Software Development for AI

- Python Programming Foundations
- Object-Oriented Application Design
- JSON And Structured Data
- HTTP, REST APIs And Webhooks
- Asynchronous Programming
- Secrets, Git And Collaboration
- Testing, Debugging And Integration Engineering

02 Generative AI & Large Language Model Fundamentals

- Generative AI and Language Model Foundations
- Transformer Architecture Fundamentals
- Open-Weight and Hosted Model Choices
- Tokens Context Windows and Generation Parameters
- Embeddings and Semantic Similarity
- Model Capabilities Limitations and Selection
- LLM Evaluation Safety and Responsible Use

03 Advanced Prompt Engineering for Developers

- Prompt Requirements and Instruction Design
- Prompt Templates and Reusable Components
- Few-Shot Prompting and Example Selection
- Structured Outputs and Schema Validation
- Prompt Chaining and Task Decomposition
- Prompt Versioning and Change Records
- Test Sets and Automated Evaluation

04 LLM APIs & Application Integration

- API Foundations And First Requests
- Authentication And Secure API Integration
- Text, Multimodal, And Structured Requests
- Input Validation And Sensitive Data Handling
- Function Calling, Tool Use, And Streaming
- Rate Limits, Errors, And Resilient Retries
- Token Monitoring, Cost, And Production Readiness

05 Embeddings & Vector Databases

- Text Embeddings And Model Selection
- Similarity Measures And Exact Search
- Document Preparation And Chunking
- Embedding Generation And Vector Storage
- FAISS, Vector Databases, And Indexes
- Metadata Filtering And Semantic Retrieval
- Retrieval Evaluation And Improvement

06 Retrieval-Augmented Generation (RAG)

- RAG Architecture And Evidence Grounding
- Document Ingestion And Processing
- Chunking And Index Preparation
- Query Embedding And Retrieval Accuracy
- Context Construction And Source Citations
- Outdated And Conflicting Sources
- RAG Evaluation And Knowledge Maintenance

07 AI Chatbots & Conversational Applications

- Conversation Architecture And State
- Multi-Turn Design And Error Recovery
- Knowledge-Based Chatbot Design
- Knowledge Retrieval, Testing And Maintenance
- Tool-Enabled Workflows And Safe Actions
- Human Escalation And Safety Testing
- Document Question Answering And Evidence

08 LLM Application Frameworks

- Framework Architecture And Selection
- Model Prompt And Output Abstractions
- Data Preparation And Retrieval Pipelines
- Response Synthesis And Source References
- Application Tools And Workflow Orchestration
- State And Conversation Context
- Testing Framework Components And Workflows

09 Full-Stack AI Application Development

- AI Application Architecture And Project Foundations
- FastAPI Backend And API Design
- AI API Integration, Validation And Error Handling
- Frontend Integration And AI Interfaces
- Authentication And User Management
- Database Integration And Document Workflows
- Deployment, Operations And Capstone Integration

10 LLM Evaluation, Deployment & Optimization

- LLM Response Evaluation
- Automated Evaluation Datasets
- RAG Retrieval And Answer Evaluation
- Model Selection And Cost Estimation
- Caching And Latency Optimization
- Docker And Cloud Deployment
- Monitoring Logging And Observability

02 Projects & assignments

Hands-on work for your portfolio

P1 Build an AI-powered chatbot that responds to user questions using an LLM API.

P2 Create a document question-answering application that retrieves relevant content with embeddings and RAG.

P3 Develop a custom AI application that combines an LLM with a focused user workflow.

P4 Publish project code to GitHub and prepare an application for deployment using the techniques covered in the c

03 Tools & software you will master

8 industry tools

CH ChatGPT	**PY** Python	**SQ** SQL	**JN** Jupyter Notebook	**SL** scikit-learn	**SS** spreadsheet software	**NC** no-code automation platf

CA Canva

04 AI Integration

How AI is used inside the work of this course

AI SUBJECT

AI Fundamentals & Prompt Engineering

- **AI Basics and Everyday Uses**
- **Generative AI: How It Works**
- **Prompt Engineering Foundations**
- **AI for Study and Workplace Tasks**
- **Fact-Checking and Reliable Research**
- **Privacy, Safety and Responsible Use**
- **Integrated Practice and Review**

AI SUBJECT

AI for Programming & Web Development

- **AI Pair Programming Setup: VS Code and GitHub Copilot**
  GitHub Copilot in VS Code: Sign in, use inline suggestions and Chat, then try agent mode o
- **AI-Assisted Front-End Development**
  GitHub Copilot in VS Code: Use inline suggestions and Chat while building and refining a r
- **Python Coding and AI Agents in the Editor and Terminal**
  Claude Code in Terminal and project files: Install or access it using the current official
- **GitHub Team Workflow and AI Code Review**
  GitHub Copilot code review in GitHub pull requests: Request a review on a practice pull re
- **Calling AI APIs from Your Own App**
  OpenAI API in A local app or server-side project: Create an API key with available account
- **AI-Assisted Testing, Debugging and Documentation**
  GitHub Copilot Chat in VS Code: Use project context to suggest tests or explain a failure,
- **AI-Assisted Deployment and Final Project**
  GitHub Copilot in VS Code: Ask for help preparing or explaining deployment files, then rev

AI TOOLS YOU WILL USE

Google Gemini

GitHub Copilot

VS Code

GitHub

Claude

Microsoft Copilot

Perplexity

NotebookLM

CAREER OPPORTUNITIES

Where this course can take you

- Generative AI application developer
- LLM application developer
- AI software developer
- RAG application developer
- Conversational AI developer
- Junior AI/ML software engineer

Freelancing & own business

- Depending on their skills and portfolio, learners may offer prompt writing, AI-assisted content support or simple no-cod

Industries that hire

- AI and automation skills can be relevant in IT services, e-commerce, finance, education, marketing, customer support and

Grow further

- Learners can progress to deeper study in machine learning, data science, software development or AI applications. The ad

Certification

The ISDM NxT Certificate is awarded after you successfully complete the course and its final assessment.

Practical AI-integrated project | **Final online test** | **Verifiable certificate**

WHY START NOW

Your future is built by the skills you learn today.

Companies hire people who can do the work. People who use AI well at work are in demand - this course teaches you the job skills and the AI tools together. Every month you practise adds a project to your portfolio - the best time to start is now.

18+	600+	2,708+	390+
Years of training experience	Centres across India	Job offers to our students	Hiring companies

UNIQUE FEATURES AT ISDM NxT

- ✓ Free pre-counselling to choose the right course
- ✓ Study material, attendance, assignments, exams and results online from day one
- ✓ 24x7 AI trainer (ChatNxT) for your doubts
- ✓ Experienced, rated trainers and daily class feedback
- ✓ Practical lab sessions and live projects
- ✓ Monthly online mentorship sessions
- ✓ Resume, mock interviews and job offers in your student dashboard
- ✓ Freelancing and start-up guidance

● LIVE PLACEMENT DATA

Latest job offers to ISDM NxT students

Updated 20 Nov 2026



Gaurav M.
India
Java Software Development Engineer
Health Catalyst



Geeta K.
New Delhi
tellecaller for digital marketing
balajimarketingexperts



Anand S.
Muvattupuzha
Hiring Junior Account Executive J...
CorpZop



Adarsh S.
Ghugus
TGT Computer Science
Adani Foundation



Priyanka Y.
Mumbai
Data Entry Operator (Full-time) -...
CorpZop



Rajan S.
Ahilyanagar
Computer Trainer
Enlearning skill development Ltd

Job offers shared with our students through the ISDM NxT job network. See all at isdmnext.in/latest-placement

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01
Counselling
Free guidance to pick the right course

02
Training
Practical classes, labs and projects

03
Mentoring
Experts, AI trainer and feedback

04
Placement support
Resume, interviews and job offers

What you get with this course

- Study material and online access from day one
- Practical lab sessions and live projects
- 24x7 AI trainer support
- AI career counselling
- Interview preparation
- Job offers in the student dashboard
- ISDM NxT certificate

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Fees depend on the centre and current offers - ask your counsellor. Course content may be updated to stay current with industry needs. · isdmnext.in