MASTER RAG & LLM APPLICATION DEVELOPMENT COURSE With Placement

Build Production-Ready Enterprise AI Systems with Real-Time Hands-on RAG & LLM Application Development Training

Start Learning from Industry Experts

18+ Years Experience | 600+ Hiring Partners | 20K Learners Trained | 16K Placements Done

Free Certification: FREE Upon Completing Training

Limited Seats Only: START HERE !

ARE YOU FACING THESE CHALLENGES ?

- Will learning RAG or LLM app development help me get a job?
- Will I have enough time to learn RAG & LLM app development?
- Do you have real-time projects? Will mentoring be done by industry experts?
- Will you provide placement support? Will you help me crack interviews?
- Will I get a course completion certificate and valuable projects for my resume?

Choose Smart Learning Pathways

- Live Online Training
- Classroom Training
- Weekend Training
- Fast Track Training
- Corporate Training
- Customized Training

ABOUT INVENTATEQ

Inventateq is a leading training and consulting company committed to transforming aspirants into industry-ready professionals.

- Our Mission: To empower individuals with cutting-edge skills and knowledge, enabling them to excel in their careers and contribute to the advancement of technology.
- Our Vision: To be a globally recognized leader in technology education, fostering innovation and creating a workforce that drives the future of technology.

Why Thousands Choose Inventateq?

- 18+ Years Experience
- 500+ Hiring Partners
- 25,000+ Students Trained
- 10,000+ Placements Done

Trusted by Leading Companies

Deloitte. Capgemini amazon PWC IBM

WHY LEARN RAG & LLM APPLICATION DEVELOPMENT ?

Enterprises are actively pursuing Retrieval-Augmented Generation (RAG) and LLM Application Development professionals to build intelligent, context-aware AI systems that can reason over private and real-time data.

CAREER OUTCOMES AFTER RAG & LLM APPLICATION DEVELOPMENT

- Generative AI Engineer
- Prompt Engineer / Prompt Engineering Specialist
- LLM Application Developer
- RAG Application Developer
- AI Solutions Architect
- Machine Learning Engineer
- Data Scientist
- Software Engineer (AI Integration)
- Conversational AI Developer
- Chatbot Developer
- Natural Language Processing (NLP) Engineer
- AI Product Manager
- Cloud AI Engineer
- Enterprise AI Consultant
- Research Engineer (Applied AI)
- Automation Engineer (AI-driven workflows)

SALARY INSIGHTS FOR RAG & LLM APPLICATION DEVELOPMENT

- Entry-Level: ₹7 LPA – ₹12 LPA
- Mid-Level: ₹12 LPA – ₹24 LPA
- Senior-Level: ₹24 LPA – ₹40 LPA
- Top Tier: ₹40 LPA – ₹70 LPA

WHO SHOULD ENROLL IN THIS COURSE?

- Software Developers
- Data Scientists
- Machine Learning Engineers
- Cloud Engineers
- Technical Architects
- Product Managers
- Business Analysts
- Students & Graduates

CERTIFICATE

Upon successful completion of the course, you will receive a certificate from Inventateq.

- Course Completion Certificate
- Project Completion Certificate
- Internship Completion Certificate

Start Your Free Demo Class Now

Taking Batch for Corporate Training in India

₹7.1 LPA – ₹24 LPA

WHY INVENTATEQ ?

- Industry-Experienced Trainers
- Hands-on Practical Training
- Real-Time Projects
- Flexible Learning Options
- Interview Preparation & Mock Interviews
- Placement Assistance
- Certification Upon Completion
- Lifetime Access to Learning Resources
- Affordable Pricing

COURSE IN 3 DIFFERENT FORMATS

- Live Online Training
- Classroom Training
- Corporate Training

Trainers Have Worked In Companies Like

Deloitte. Capgemini amazon PWC IBM

All Inventateq, Your Success Is Our Mission !

GUARANTEED PLACEMENT SUPPORT

Our dedicated placement team is committed to your success.

- Mock Interviews
- Technical Training
- Resume Preparation
- Interview Preparation
- Resume Preparation
- Aptitude Training
- Interview Preparation
- Soft Skills Training
- Interview Preparation

OUR PLACEMENT STATS

- 10,000+ Students Placed
- 500+ Hiring Partners
- 95% Placement Rate
- 6 LPA Highest Package

Get Placement Assistance Now

CAREER PROGRESSION

Your career growth with RAG & LLM Application Development training in Tech Stack

ROLE OVERVIEW	TYPICAL EXPERIENCE (YRS)	POSITION DETAILS
Junior RAG & LLM Application Developer	0–2 Years	Assists in building RAG pipelines, integrating LLM APIs, and developing basic AI-powered applications under supervision.
RAG & LLM Application Developer	2–4 Years	Designs and develops end-to-end RAG systems, optimizes retrieval and generation workflows, and integrates LLMs into production applications.
Senior RAG & LLM Application Developer	4–6 Years	Leads RAG and LLM application architecture, design and delivery, and mentors junior developers.
Lead RAG & LLM Application Developer	6–8 Years	Oversees multiple AI projects, defines technical standards, and collaborates with cross-functional teams.
Principal RAG & LLM Application Developer	8–10 Years	Drives AI strategy and innovation, leads large-scale AI transformation initiatives, and represents the organization in technical forums.

SKILLS ROADMAP

Master these skills to become a job-ready enterprise AI architect.

MODULES	PRACTICAL TASKS	MASTERY ACHIEVED
Python Programming Fundamentals	Implement data structures and algorithms for text processing and file handling.	Write clean, efficient Python code for AI application development.
Machine Learning Foundations	Implement supervised and unsupervised learning models using scikit-learn.	Understand core ML concepts and evaluate model performance.
Deep Learning Fundamentals	Build and train neural networks using PyTorch and TensorFlow.	Understand how deep learning models learn and generalize.
Transformers & Attention Mechanisms	Implement attention mechanisms and fine-tune transformer models.	Understand how large language models process and generate text.
Embeddings & Vector Representations	Generate and visualize embeddings for text and documents.	Understand how text is converted into numerical representations.
Prompt Engineering & LLM APIs	Design prompts and integrate LLM APIs into applications.	Build reliable LLM-powered features with effective prompt strategies.

DETAILED MODULE PLAN

MODULE 1 – LLM & Generative AI Foundations

- Introduction to Large Language Models and their role in enterprise AI systems
- Transformer architecture overview
- Tokenization and embeddings
- Context windows and limitations
- LLM hallucinations and mitigation
- Open-source vs proprietary models
- LLM licensing and cost considerations

▶ LESSON 1.00
Foundations and Architecture of Large Language Models

▶ INTERVIEW & ASSESSMENT
Theoretical assessment on LLM architecture and limitations

MODULE 2 – Prompt Engineering & LLM APIs

- Prompt engineering principles
- Zero-shot, few-shot, and chain-of-thought prompting
- Prompt templates and versioning
- Role, context, and instruction design
- Output parsing
- Structured output generation
- Working with LLM APIs (OpenAI, Anthropic, Google, Azure)
- Handling rate limits, retries, and errors
- Cost optimization strategies

▶ LESSON 2.00
Prompt Engineering and LLM API Integration

▶ INTERVIEW & ASSESSMENT
Practical assessment on prompt engineering and API integration

MODULE 3 – Embeddings & Semantic Search

- Embedding models and their applications
- Vector representations of text, images, and multimodal data
- Similarity search and distance metrics
- Text cleaning and preprocessing
- Chunking strategies for long documents
- Metadata extraction and enrichment
- Hybrid search (keyword + semantic)
- Re-ranking techniques

▶ LESSON 3.00
Embeddings and Semantic Search Fundamentals

▶ INTERVIEW & ASSESSMENT
Practical assessment on embeddings and semantic search

MODULE 4 – Vector Databases

- Vector database architecture and use cases
- Open-source vector databases (Chroma, Qdrant, Weaviate, Milvus, FAISS)
- Managed vector database services (Pinecone, Azure AI Search)
- Schema design
- Indexing strategies
- Filtering and hybrid queries
- Scaling and performance tuning
- Backup and recovery

▶ LESSON 4.00
Vector Database Architecture and Implementation

▶ INTERVIEW & ASSESSMENT
Practical assessment on vector database implementation

MODULE 5 – RAG Fundamentals

- Learning Objectives
- Basic Linear Equations in One Variable
- Solving Linear Equations
- Word Problems
- Introduction to Inequalities
- Compound Inequalities
- Absolute Value Equations
- Review and Quiz

▶ LESSON 5.00
Retrieval-Augmented Generation (RAG) Architecture

▶ INTERVIEW & ASSESSMENT
Practical assessment on RAG pipeline development

MODULE 6 – Advanced RAG

- Learning Objectives
- Advanced chunking and indexing strategies
- Query transformation techniques
- Multi-hop retrieval
- Agentic RAG workflows
- Evaluation metrics (faithfulness, relevance, groundedness)
- Reducing hallucinations
- Production monitoring and observability

▶ LESSON 6.00
Advanced RAG Techniques and Optimization

▶ INTERVIEW & ASSESSMENT
Practical assessment on advanced RAG implementation

MODULE 7 – LangChain & LlamaIndex for LLM Applications

- Learning Objectives
- Introduction to Functions & Modeling
- Graphs of Linear Functions
- Slope and Rate of Change
- Parallel and Perpendicular Lines
- Review and Quiz

▶ LESSON 7.00
Building LLM Applications with LangChain and LlamaIndex

▶ INTERVIEW & ASSESSMENT
Practical assessment on framework-based application development

MODULE 8 – RAG Evaluation, Guardrails & Production Optimization

- Learning Objectives
- Introduction to Systems of Linear Equations
- RAG evaluation
- Guardrails and safety filters
- Prompt injection defense
- Caching strategies
- Latency optimization
- Review and Quiz

▶ LESSON 8.00
Evaluation, Guardrails, and Production Optimization

▶ INTERVIEW & ASSESSMENT
Practical assessment on evaluation and optimization techniques

MODULE 9 – LLM Agents & Tool Calling

- Learning Objectives
- Introduction to Exponents and Exponential Functions
- Properties of Exponents
- Scientific Notation
- Fractional Exponents
- Exponential Growth and Decay
- Review and Quiz

▶ LESSON 9.00
Agentic AI Systems and Tool Calling

▶ INTERVIEW & ASSESSMENT
Practical assessment on agent and tool calling implementation

MODULE 10 – Deployment & Production LLM Applications

- Learning Objectives
- Introduction to Polynomials and Polynomial Arithmetic
- Factoring Polynomials
- Quadratic Equations
- Graphing Quadratic Functions
- Applications of Quadratics
- Review and Quiz

▶ LESSON 10.00
Deploying and Scaling LLM Applications

▶ INTERVIEW & ASSESSMENT
Practical assessment on deployment and production readiness

REAL-WORLD PORTFOLIO PROJECTS

Project 1: Learning Objectives
Objective: Learn how to identify and write the equation of a line given various conditions.
Skills Gained: Slope-intercept form, point-slope form, standard form, parallel and perpendicular lines.
Tools Used: Graphing calculator, Desmos.

Project 2: Applications and Review
Objective: Apply linear equations to solve real-world problems and review key concepts.
Skills Gained: Modeling with linear equations, interpreting slope and intercepts in context.
Tools Used: Spreadsheet software, graphing calculator.

Project 3: Assembly
Objective: Design and implement a multi-component system integrating hardware and software.
Skills Gained: System integration, debugging, documentation.
Tools Used: Microcontroller, development board, sensors.

Project 4: REST APIs
Objective: Design and implement a RESTful API with proper routing, validation, and error handling.
Skills Gained: API design, HTTP methods, status codes, request validation.
Tools Used: Node.js or Python framework, Postman, OpenAPI.

Project 5: Build a LLM App on Real Estate
Objective: Build a production-ready real estate application with user authentication and data persistence.
Tools Used: PostgreSQL or MongoDB, ORM library, migration tools.

ASSESSMENT FRAMEWORK

Rigorous evaluation ensuring practical mastery and industry readiness.

ASSESSMENT	ASSESSMENT FOCUS	PASS CRITERIA
Module Quizzes	Conceptual understanding of each module's core topics	Minimum 70% to unlock the next module
Unit Assessments	Hands-on coding exercises and practical problem-solving	Minimum 70% to unlock the next module
Mock Written Examination	Comprehensive written exam covering all modules	Minimum 70% to unlock the next module
Capstone Project	Real-world project demonstrating end-to-end skills	Minimum 70% to unlock the next module
Technical Interview	Mock interview with industry experts	Minimum 70% to unlock the next module

RESUME, GITHUB & LINKEDIN

Build a standout resume and professional online presence.

- Resume Preparation: Get personalized guidance to create a resume that highlights your skills and projects effectively.
- Resume Review: Receive detailed feedback from industry experts to refine your resume.
- Resume Templates: Access professionally designed templates to choose the perfect format for your resume.
- Resume Writing Tips: Learn best practices for writing a resume that stands out to employers.
- Resume Optimization: Optimize your resume for applicant tracking systems (ATS) to increase your chances of getting noticed.
- Resume Distribution: We will help you distribute your resume to our network of hiring partners.

OUR STUDENT

Our students come from all walks and have successfully overcome through dedication, skill, and continuous practice.

READ REVIEWS

- Ramesh Kumar — Software Engineer — ★★★★★ — "Inventateq's RAG & LLM Application Development course helped me transition into AI engineering. The hands-on projects and mentorship were invaluable."
- Priya Sharma — Data Scientist — ★★★★★ — "The trainers are industry experts who explain complex concepts clearly. I built a production-ready RAG system during the course."
- Arjun Mehta — Machine Learning Engineer — ★★★★★ — "Excellent curriculum and placement support. I received multiple interview calls within a week of completing the course."
- Sneha Reddy — Cloud Engineer — ★★★★★ — "The flexible learning options made it easy to balance work and study. The mock interviews were very helpful."
- Vikram Singh — Product Manager — ★★★★★ — "I enrolled to understand LLM capabilities for my team. The course exceeded my expectations and I now lead our AI initiatives."

WATCH VIDEOS

Generative AI Course in Tamil | Generative AI Tutorial for Beginners | Generative AI Training | Intellipaat

Generative AI Tutorial for Beginners | Generative AI Course | Generative AI Training | Intellipaat

Generative AI Course in Telugu | Generative AI Tutorial for Beginners | Generative AI Training | Intellipaat

RAG Application Development with Azure AI Search | Intellipaat

RAG Application Development with Azure | Intellipaat

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JOB HUNTING ENDS HERE

Join us and transform your career with RAG & LLM Application Development course that gets you Hired.

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