

BIBEK GUPTA

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Summary

GenAI and Software Engineer, B.Tech CSE at KIIT University (CGPA: 9.05/10), graduating 2027. IBM-certified AI/ML Engineer with production-deployed LLM systems spanning multi-agent orchestration, RAG pipelines, VLM edge AI, and full-stack application development.

Technical Skills

Generative AI & LLMs: Fine-tuning, Prompt Engineering, LLM Evaluation, Retrieval-Augmented Generation (RAG), Agentic AI, Multi-Agent Orchestration, ReAct Agents, Chain-of-Thought Reasoning, Vision-Language Models (VLM), Small Language Models (SLM), Edge AI

LLM Frameworks & Libraries: LangChain, LangGraph, Hugging Face Transformers, OpenAI API, Groq, Llama 3, NVIDIA Nemotron, Pydantic, Openrouter API

Vector Databases & Retrieval: ChromaDB, FAISS, Pinecone, Semantic Chunking, Embedding Models.

AI/ML & Deep Learning: TensorFlow, PyTorch, Scikit-learn, Transformers, CNN, RNN, LSTM, NLP, Feature Engineering, Hyperparameter Tuning

Programming Languages: Python, Java, JavaScript, PHP, SQL, MongoDB, OracleDB.

Data Science: Pandas, NumPy, Matplotlib, Seaborn, Statistical Analysis, Exploratory Data Analysis (EDA), Power BI

Web Development & APIs: React, Node.js, FastAPI, Flask, Streamlit, RESTful APIs, Tailwind CSS

Cloud & Tools: Docker, Git, GitHub Actions, Railway, Cloudflare Pages, Render, AWS (Familiar)

Experience

Summer Intern – National Informatics Centre (NIC), Govt. of India **May 2026 – Present**
Shillong, Meghalaya, India

- **AMO ESIS Website Revamp** – Enhancing a live platform with improved responsiveness and stability; applying software engineering best practices in a regulated production environment
- **Directorate of Housing Portal** – Updated and optimized the government web portal; coordinated third-party audit submission for compliance verification
- **Directorate of Home Guards and Civil Defence** – Developed an internal operations dashboard for streamlined data management and administrative workflow automation

Projects

AgentResearch.ai – Autonomous Multi-Agent Research Pipeline *Live* **Jan 2026 – Feb 2026**
Python, LangGraph, LangChain, Llama 3.3 70B (Groq), Tavily Search, HuggingFace FLUX.1, FastAPI, React 18

- Architected a 5-node agentic AI orchestration pipeline using LangGraph with LLM-powered autonomous reasoning with Tavily-powered live web retrieval across three routing modes (closed_book, hybrid, open_book)
- Deployed full-stack generative AI application (FastAPI + React 18) with parallel LLM inference, HuggingFace FLUX.1 image generation, and real-time blog library management; live on Cloudflare Pages and Render.

PaperForge – Graph-Based Agentic AI System *Live* **Jun 2026 - Jul 2026**
Python, LangGraph, OpenRouter (Nvidia Nemotron), FastAPI, MySQL/SQLite, Pytest

- Architected an auditable multi-agent workflow system implementing the 'Workflow Pathways for Long-Running Stateful Business Processes' framework via LangGraph StateGraphs, reducing loop failures to 0% while achieving a 100% citation-verified hallucination-check pass rate on Agentic RAG pipelines
- Implemented a self-healing SQL Analytics Repair Loop executing in <25ms with bounded retries (attempts < 3), preventing infinite retry loops and cutting unnecessary API token overhead by 65%

DocQueryAI – RAG-Powered Document Intelligence Platform *Live* **Dec 2025 – Jan 2026**
Python, LangChain, Llama 3, ChromaDB, FAISS, Sentence Transformers, PyPDF2, Streamlit, Railway

- Designed and deployed production RAG pipeline using LangChain and Llama 3 with semantic chunking, ChromaDB vector retrieval, FAISS-compatible embedding storage, and sentence-transformer embedding models – achieving 90%+ context-aware QA, maintaining 99% uptime, accuracy on 50+ page documents with sub-2-second response latency.

Education

Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar **Jul 2023 – Jun 2027**
B.Tech in Computer Science and Engineering *CGPA: 9.05/10.0*

Certifications and Achievements

Research Publication – Hybrid QLSTM Neural Network for Air Quality Forecasting **(2026)**

IBM SkillsBuild AI/ML Professional Certificate – Edunet Foundation, 95% assessment score **(2025)**

Top 10% Ranking – MumbaiHacks, India's largest Agentic AI hackathon, 3000+ participants **(2025)**

UiPath Certified Automation Developer – Designed and deployed 3 RPA workflows achieving 60% operational efficiency gain using UiPath Studio, workflow orchestration under KIIT Training Placement Cell **(2025)**