

Tanya Chaturvedi

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<https://github.com/tanyaachaturvedi> <https://portfolio-tanyaachaturvedi.netlify.app>

TECHNICAL SKILLS

C++, GoLang, JavaScript, Python, React.js, Next.js, SQL, Machine Learning, Git

PROJECTS

- Swaasthya** | *Go, Kafka, Redis, PostgreSQL, Docker, Kubernetes* *September 2024*
- Architected and deployed a scalable, containerized microservices-based hospital management system, improving data retrieval speeds by 40% through region-based database sharding.
 - Developed secure, role-based 2FA authentication for administrative and staff access.
 - Integrated Redis-powered smart queue management to reduce patient wait times by 25%, enhancing operational efficiency.
 - Implemented Kafka-driven asynchronous batch processing, preventing database bottlenecks and ensuring real-time updates across multiple branches.
- DebateMate** | *FastAPI, LangChain, OpenAI GPT, Llama3, Hugging Face Transformers* *November 2024*
- Designed and deployed an AI-powered real-time argument analysis system processing 200+ debate topics daily with high reliability.
 - Engineered a custom NLP model using the IBM Debater dataset, classifying arguments by stance and reasoning type with 85% accuracy.
 - Implemented a lightweight Retrieval-Augmented Generation (RAG) module for contextual argument support
 - Developed an advanced NLP fallacy detection model identifying 10+ logical fallacies.
- Knowbotic** | *Python, LangGraph, Vector Search* *February 2025*
- Devised an autonomous research assistant leveraging LLMs (GPT-4, LLaMA 3) and LangGraph, capable of synthesizing information from 10,000+ documents and web sources.
 - Built a multi-step reasoning pipeline with persistent memory and iterative task refinement for improved research accuracy.
 - Integrated real-time web search, RAG-based document retrieval, and structured summarization with source-cited output.
 - Demonstrated expertise in LLM orchestration, vector search, and memory management beyond basic chatbot functionality.

EXTRA CURRICULARS

Joint Secretary: BashCraft, VIT Bhopal

Technical Team Member: IOT Club, VIT Bhopal

Smart India Hackathon 2024 Finalist in VIT Bhopal's Smart India Hackathon 2024 internal round, securing national-level selection

EDUCATION

Vellore Institute of Technology	Bhopal, MP
<i>B.Tech in ECE with AI and Cybernetics - 8.2 CGPA</i>	<i>October 2022 – July 2026</i>
Christ Church Girl's S.S. School	Jabalpur, M.P.
<i>Class XII - 85%</i>	<i>April 2020 – May 2021</i>
Christ Church Girl's S.S. School	Jabalpur, M.P.
<i>Class X - 90%</i>	<i>April 2018 – May 2019</i>