

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

CERTIFICATES

- Neural Networks and Deep Learning- DeepLearning.AI — November 2024

PROJECTS

Swaasthya | *Go, Kafka, Redis, PostgreSQL, Docker, Kubernetes* September 2024 - April 2025

- Designed and deployed a scalable hospital management system with region-based database sharding, optimizing patient record retrieval speed by 40%
- Built a role-based 2FA authentication system, enhancing security for hospital staff and administrators.
- Devised Redis-backed smart queue management to optimize patient flow, reducing wait times by 25% and enhancing appointment scheduling.
- Integrated Kafka for asynchronous batch processing, preventing database overload and enabling real-time updates across multiple hospital branches.

DebateMate | *FastAPI, LangChain, OpenAI GPT, Llama3, Hugging Face Transformers* November 2024

- Trained a custom NLP model using the IBM Debater dataset to classify arguments by stance and reasoning type
- Integrated GPT-based fallacy detection with effective prompt engineering
- Developed a FastAPI backend serving model predictions via clean APIs
- Implemented a lightweight Retrieval-Augmented Generation (RAG) module for contextual argument support
- Developed an advanced NLP fallacy detection model achieving 85% accuracy, identifying 10+ logical fallacies such as Straw Man and False Dilemma.

Knowbotic | *Python, LangGraph, Vector Search* February 2025 - April 2025

- Designed and implemented a research assistant leveraging LLMs (GPT-4, LLaMA 3) and LangGraph, capable of autonomously retrieving, summarizing, and synthesizing information from over 10,000+ documents and web sources.
- Implemented multi-step reasoning pipeline with LangGraph to maintain contextual memory and iterative refinement of research tasks.
- Integrated web search, RAG-based document retrieval, and LLM-driven summarization to generate structured, source-cited research reports.
- Demonstrated expertise in LLM orchestration, prompt engineering, vector search, and memory management beyond basic chatbot implementations.

ACHIEVEMENTS

Leetcode: Rank 1,130,079 | Contest Rating: 1709

GeeksForGeeks: Rating 1553 | Secured a global rank of 7,887

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

EXTRA CURRICULARS

Joint Secretary: BashCraft, VIT Bhopal

Technical Team Member: IOT Club, VIT Bhopal

EDUCATION

Vellore Institute of Technology

B.Tech in Electronics and Communication with spec. in AI and Cybernetics - 8.2 CGPA

Bhopal, MP

October 2022 – July 2026

Christ Church Girl's S.S. School

Class XII - 85%

Jabalpur, M.P.

April 2020 – May 2021

Christ Church Girl's S.S. School

Class X - 90%

Jabalpur, M.P.

April 2018 – May 2019