

AI Engineer specializing in Autonomous Agentic Workflows and Production MLOps. Experienced in architecting **Graph-RAG bioinformatics platforms** with shadow-mode deployment and decentralized GovTech digital twins. Focused on building robust LLM pipelines with automated factuality checks and PII redaction to bridge the gap between research and scalable, full-stack applications.

## Skills and Languages

- Languages: TypeScript, Python, C++
- Backend: NodeJS, Express, FastAPI
- Databases: PostgreSQL (PostGIS), MongoDB, Neo4j (GraphDB)
- Frontend: ReactJS, NextJS, React Native, Vite, JavaScript
- AI/ML: NLP, Transformers, MLOps, PyTorch, Hugging Face, OpenCV
- MLOps: MLflow, Airflow, Web Scraping (BeautifulSoup4)
- Others: Linux, Git, GitHub, Azure, Firebase

## Education

- **Btech. Computer Science & Engineering**, Bhagwan Parshuram Institute of Technology, Delhi 2024–2028 (ongoing)
- Certifications: [Full Stack Developer Certificate – Udemy, 2025](#)  
[Oracle AI Foundation- Oracle, 2025](#)

## Projects

- **Bioline: AI-Powered eDNA Analysis Platform**
  - Architected a production-grade bioinformatics pipeline to decode environmental DNA (eDNA), utilizing DNABERT model for species identification
  - Developed a novelty detection system using HDBSCAN unsupervised learning to cluster and identify unknown organisms from unique DNA gene markers
  - Graph-RAG: Specifying Cypher query generation proves you aren't just using a basic vector store, but are handling complex, relational data structures.
  - [Deployed Website](#)
- **MoleculeX: Multi-Agent Strategic Intelligence for Pharma**
  - Architected a "Swarm-and-Council" Agentic Workflow using LangGraph to automate pharma market research, transforming raw data into verified strategic directives.
  - Orchestrated a fleet of specialized AI agents using LangChain for dynamic task decomposition and Gemini 3 Flash for real-time web grounding of 2024–2025 patent data.
  - [Deployed website](#)
- **RuralLens: Digital Twin for Smart Rural Governance**
  - Architected a real-time Village Digital Twin using MapLibre GL and WebSockets to monitor government infrastructure schemes and IoT sensor telemetry.
  - Implemented a sub-second RAG pipeline using Llama 3.1-8B and Pathway for natural language querying of documents with automated PII redaction for citizen privacy.
  - Tech Stack: AI/ML (PyTorch, YOLO), Web3 (Hyperledger Fabric), PostGIS, Python, Node.js, React.
  - [Deployed Website](#)

## Interests

- Selected for Winnovation Industry Internship: Awarded a specialized internship opportunity to transition the project (BioLine) into a commercial solution for industry leaders.
- Top 10 Finalist (out of 2,500+ participants) In 5+ Hackathons at **Innovision, TechJam, VibeState**.