

Vaibhav Dangaich

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Education

Birla Institute of Technology, Mesra

Bachelor of Technology in Artificial Intelligence & Machine Learning

CGPA: 8.4

Sep 2023 – Sep 2027

Subhash Public School

BNS DAV Public School

CBSE Class XII, 2022 — **89%**

CBSE Class X, 2020 — 93.2%

Experience

123 of AI

May 2026 – Jul 2026

Software Development Engineer Intern

- Built **cohort-based learning** on a **Next.js/React + Node.js/TypeScript (Express)** platform on **Azure** — enrollment, scheduling, streaks, XP **leaderboards**, certificates and **REST APIs**, plus **10** idempotent scripts migrating the course catalog.
- Owned the **monetization** stack — **Razorpay** orders, subscriptions and **webhooks**, an idempotent **entitlements** service, and a ledger-based **credits** system auto-granting across **3** tiers, with every offer priced **server-side** to block client-side tampering.
- Engineered a **personalized recommendation engine** using **vector embeddings** and **semantic search (Azure OpenAI)** targeting each learner's weak concepts; shipped the **DRM** course player and audited **Amplitude** telemetry across **132** routes.

Feb 2026 – May 2026

Konect U

Artificial Intelligence Intern

- Designed secure, real-time data ingestion pipelines using **Apache NiFi** and **Apache Kafka**, routing **4** document formats (PDF, spreadsheet, Office, image) for a defense-oriented government intelligence project.
- Developed **LangChain**-powered **LLM** workflows and **Neo4j** knowledge graphs to extract entities and map ontologies, lifting entity search recall from **70% to 95%** with zero false merges.

Oct 2025 – Dec 2025

Konect U

Full Stack Intern

- Delivered full-stack apps in an agile team, translating client requirements into technical specs and integrating third-party APIs.

Publications

Vaibhav Dangaich, Kevin Lewis, Kundeshwar Pundalik. “An Ontology-Guided, Deduplication-Aware Extraction Layer for Knowledge Graph Construction from Heterogeneous Documents.” *Preprint*, arXiv:2607.28662 [cs.AI], Jul 2026.

Ontology-guided two-pass extraction with a locally hosted **Qwen3.5-9B** over a **Kafka** document stream; live ontology-slice retrieval cut catalog overhead **~94%**, and a six-algorithm deduplication + embedding-resolution pipeline raised search recall from **70% to 95%** with zero false merges.

Projects

FOIAtlas | *Next.js 16, TypeScript, Kùzu, Gemini, LangGraph, Cytoscape*

[🐙 GitHub](#) | [🌐 Live Demo](#) | Jun 2026 – Jul 2026

- Architected an investigative **GraphRAG** tool turning released **FOIA/RTI** records into a queryable **knowledge graph** through a **6-stage** pipeline (parse → extract → resolve → embed → write), with schema-constrained **Gemini** extraction into an embedded **Kùzu** graph.
- Modeled every **redaction as a first-class node** carrying its legal exemption code, turning concealed spans into queryable leads; shipped semantic-search chat, a **LangGraph ReAct agent** for schema-validated graph edits, a **REST API** and a **Cytoscape** explorer.

MNEX | *Node.js, LangChain, LangGraph, SQLite, Ollama*

[🐙 GitHub](#) | [📦 npm](#) | [📖 Docs](#) | Feb 2026 – Present

- Published a production-grade **npm CLI package** ([@vaibhav.dangaich/mnex](#)) powered by a **stateful LangGraph agent** with an explicit planner → executor → critic loop for self-correcting multi-step reasoning over a developer's codebase.
- Implemented a **5-tier persistent memory system** on **SQLite WAL** (sub-50ms recall) and a **local-first LLM router** (**Ollama** → **OpenAI/Gemini**) cutting cloud inference cost **~40%**; added a **DPO-exportable eval harness** and **Plugin SDK** across **3.5k** lines with zero external infra.

AI Resume Builder | *React, Tailwind CSS, Clerk, Strapi, Neon, shadcn*

[🐙 GitHub](#) | [🌐 Live Site](#) | Mar 2025 – Apr 2025

- Shipped a **Full Stack** app — **React v19**, **Strapi** CMS, **Neon** Postgres, **Clerk** auth, and a real-time editor in **shadcn** + **Tailwind CSS v4**; an **AI-driven** content suggestion module cut resume creation time by **15 minutes (75% faster)**.

Technical Skills

Languages: C, C++, Python, JavaScript, TypeScript, SQL, HTML, CSS

Frameworks & Libraries: LangChain, LangGraph, React, Next.js, Node.js, Express, FastAPI, Tailwind CSS, Three.js, Scikit-learn

Developer Tools: Git, GitHub, Docker, Postman, Azure, Apache Kafka, Apache NiFi, Neo4j, Kùzu, MongoDB, SQLite, Jest, Vector DBs

CS Fundamentals: DBMS, Operating Systems, OOP, Data Structures & Algorithms

Areas of Interest: Generative AI (LLMs), RAG & GraphRAG, Knowledge Graphs, Web Development, Machine Learning, Competitive Programming

Achievements

- Solved **400+** **DSA problems** across **LeetCode**, **Codeforces**, **GeeksforGeeks** and **CodeStudio**, demonstrating consistent proficiency in competitive programming and algorithmic analysis.
- Top 5** — **IEEE BIT Mesra CTF**: ranked top 5 of **200+** teams, solving real-world security and cryptography challenges in a team of four.