

Rakesh kumar

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EDUCATION

VIT, Vellore Campus

M.Tech - Computer Science Engineering(AI and ML) : GPA: 8.38/10

July 2025 – present

Kiet Group Of Institutions

B.Tech - Computer Science and Information Technology CGPA: 7.3/10.0

Nov 2020 – July 2024

St. Xavier's Sr. Sec. School

Intermediate Per: 79.6/100

July 2018 - June 2019

St. Xavier's Sr. Sec. School

High School Per: 89.3/100

July 2017 - May 2018

EXPERIENCE

WEB DEVELOPER INTERN

5 July 2023 - 5 oct 2023

- Work with Johnette AI and software team as web developer. designing websites using javascript ,React and Nodejs,express , backend technologies
- Developed a full-stack web applications and wrote backend and frontend API for authentication and authorization

PROJECTS

VERCEL

- * Built a production-grade Vercel-like deployment platform that automatically build and deploy GitHub projects in isolated, scalable environments.
- * Nextjs , zod ,prisma , System Design , AWS , Docker, Redis , S3 Scaled to Kafka , clickhouse , Postgres , log collection and pipelines
- * Engineered a high-performance reverse proxy system to stream deployed static content directly from S3, enabling efficient domain-based routing and minimizing server resource usage.

STUDY NOTION(PLATFORM)

- * Developed a full-stack MERN-based ed-tech platform enabling students to consume and rate courses while allowing instructors to create, manage, and monetize educational content.
- * Implemented secure RESTful APIs with JWT authentication, role-based access, payment integration (Razorpay), and cloud-based media management using Cloudinary and MongoDB Atlas
- * Designed and deployed a scalable, user-friendly learning system with modern UI (React, Tailwind, Redux) and cloud hosting on Vercel

MULTIMODAL (RAG) SYSTEM FOR ACADEMIC QA

- * Built a Multimodal Retrieval-Augmented Generation (RAG) system for academic question answering, integrating text, images, audio, and video sources to generate grounded, context-aware responses.
- * Implemented OCR, speech-to-text, multimodal embeddings, and vector search to retrieve relevant evidence and significantly reduce LLM hallucinations.
- * Orchestrated multi-step reasoning workflows using LangGraph and monitored, evaluated, and debugged LLM behavior with LangSmith to ensure reliability and performance.

TECHNICAL SKILLS

Cs Fundamentals: Data structure and algorithm, Operating system, Database management,OOPS

Languages: Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS

Frameworks: React, Node.js ,Express.js, Redux / Redux Toolkit ,langGraph,langSmith,langchain,Streamlit

Developer Tools: Github, Docker, AWS, VS Code, NumPy, Pandas, FastApi, pytorch

ML/DL:CNNs, RNNs, LSTMs, Transformers , LLms,RAG

NLP: Sentiment Analysis, Word Embeddings, Statistical Language Models, TF-IDF, Count Vectorizer