

# Abhinav Singh Vatsa

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## EDUCATION

**Indian Institute of Information Technology, Kalyani**

*Bachelor of Technology (B.Tech) in Computer Science and Engineering*

**CGPA – 7.96**

Aug 2023 – May 2027

## ACHIEVEMENTS / CERTIFICATES

- **Solved 500+ DSA Problems** across **LeetCode**, **GeeksforGeeks**, **CodeChef** and **Coding Ninjas**.
- Achieved a consistent track record on **LeetCode (400+ problems)** and **GFG (100+ problems)**.
- Active participant in **StatusCode 1 Hackathon**, working on rapid prototyping of web solutions.

## PROJECTS

### Full-Stack Job Portal (MERN)



*React.js, Redux Toolkit, Node.js, Express.js, MongoDB, JWT, Cloudinary, Tailwind CSS, Framer Motion*

- Built a scalable **full-stack Job Portal (MERN)** connecting job seekers and recruiters with structured workflows and dynamic dashboards.
- Enforced **Role-Based Access Control (RBAC)** enabling Students to browse/apply jobs and Recruiters to manage postings, applications, and companies.
- Engineered a **secure authentication system** using **JWT** and **bcrypt** with HTTP-only cookies for safe session handling and protected API access.
- Architected an **Applicant Tracking System (ATS)** to streamline hiring workflows with real-time status updates (**pending, accepted, rejected**).
- Integrated **Cloudinary + Multer** for scalable media storage, enabling seamless upload of resumes and company assets.

### AI-Powered Website Builder



*React 19, TypeScript, Node.js, Express.js, PostgreSQL, Prisma ORM, OpenAI API*

- Built an **AI-powered website builder** generating production-ready websites from natural language prompts using **OpenAI API**.
- Engineered a **multi-step prompt pipeline** to refine user input and generate clean **Tailwind CSS**-based UI code with improved design consistency.
- Executed a **version control system** allowing users to track changes, compare iterations, and rollback to previous website versions instantly.
- Architected a scalable backend using **PostgreSQL + Prisma ORM** to efficiently manage users, projects, conversations, and transactions.

### AI Video Assistant



*Python, LangChain, Whisper, Mistral AI, RAG, ChromaDB, Streamlit*

- Built an **end-to-end AI meeting assistant** that transcribes, summarizes, and enables conversational Q&A over YouTube videos and audio/video files using **OpenAI Whisper** and **Mistral AI**.
- Engineered a **Retrieval-Augmented Generation (RAG)** pipeline using **ChromaDB** vector store and **HuggingFace embeddings** for context-aware Q&A over transcripts, reducing LLM hallucination.
- Implemented **Map-Reduce summarization** with **LangChain LCEL** to handle long transcripts by chunking, summarizing, and combining into structured action items, decisions, and open questions.

## TECHNICAL SKILLS

**Languages:** C/C++, JavaScript, TypeScript, Python, Java, SQL, PL/SQL

**GenAI:** LangChain, RAG, Vector Databases, LLM Integration, Prompt Engineering, Whisper (Speech-to-Text)

**ML & Computer Vision:** PyTorch, TensorFlow, Scikit-learn, Hugging Face, YOLO, LoRA, OpenCV

**Technologies/Frameworks:** React.js, Redux Toolkit, Node.js, Express.js, Socket.io, Tailwind CSS, Streamlit

**Databases & APIs:** MongoDB, PostgreSQL, ChromaDB, JWT, REST APIs

**Developer Tools:** Git, GitHub, Postman, Prisma, Appwrite, Cloudinary, Multer, Vite

**Core CS:** Data Structures & Algorithms, Operating Systems, OOPs, DBMS