

Aasif Khan

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EDUCATION

- Vellore Institute of Technology (VIT), Chennai** Chennai, Tamil Nadu
M.Tech Integrated in Software Engineering 2024 – 2029
- CGPA: 9.29/10**

PROJECTS

- AI Resume Optimizer & Generator** — *React.js, Node.js, Express.js, MongoDB, Gemini AI:* **Live | GitHub**
 - Architected a full-stack AI resume optimization platform using React.js, Node.js, and Express.js to analyze PDF resumes against job descriptions and generate ATS-optimized resume variants using Google Gemini and structured prompting.
 - Integrated Google Gemini AI with structured prompting and schema validation pipelines to compute ATS match scores, identify skill gaps, and generate context-aware resume improvements with schema-validated JSON responses.
 - Engineered an automated PDF generation pipeline using Puppeteer's headless Chromium engine to dynamically render AI-generated HTML/CSS templates into production-ready single-page A4 resumes while persisting analytics and reports in MongoDB.
- Real-Time Multiplayer Chess Server** — *Node.js, Express, Socket.io, MongoDB, Passport.js:* **Live | GitHub**
 - Architected a scalable real-time multiplayer game server using Node.js, Express, and Socket.io (WebSockets), achieving **sub-100ms** latency for move synchronization and bi-directional event-driven communication.
 - Implemented authoritative server-side state management and rule validation using Chess.js, preventing client-side manipulation and ensuring consistent, fair game states through FEN validation.
 - Designed fault-tolerant session persistence with a **20-second** reconnection grace window, enabling seamless recovery of active matches during network interruptions.
 - Built atomic matchmaking and secure authentication workflows using Passport.js (OAuth 2.0 and local strategy), with user and session data persisted in MongoDB.
- AI Video Assistant** — *Python, LangChain, Mistral AI, Whisper, ChromaDB:* **GitHub**
 - Engineered a Retrieval-Augmented Generation (RAG) system using LangChain, Mistral AI, and ChromaDB to enable natural language question answering over YouTube videos and local media using transcript embeddings.
 - Built an automated video processing pipeline integrating yt-dlp, FFmpeg, and Whisper for video ingestion, audio extraction, transcription, and vector embedding generation.
 - Implemented audio and transcript chunking pipelines to efficiently process long-form videos without excessive memory usage during transcription and retrieval.
 - Implemented semantic retrieval using vector embeddings and Max Marginal Relevance (MMR) search to diversify retrieved transcript chunks and reduce redundant information in generated responses.

ACHIEVEMENTS

- Google Big Code 2026 Semi-Finalist:** Semi-Finalist in Google Big Code 2026 and emerged as one of **1500** participants shortlisted.
- Flipkart GRiD 8.0 Semi-Finalist:** Qualified for Round 3, placing in the **top 0.76%** of participants in Flipkart's national-level coding competition.
- Best Overall Project Award:** Awarded Best Overall Project at Saveetha University (SIMATS) for SLIM AI.
- Gravito Hacks – 4th Place:** Secured **4th** place among 70+ teams at Gravito Hacks for a smart lake monitoring solution.
- Academic Excellence:** Ranked **8th** overall in the department based on academic performance.
- Hackathon Participation:** Participated in 8+ hackathons involving software development, problem-solving, and team collaboration.

TECHNICAL SKILLS

- Programming Languages:** JavaScript, Python, Java, C++, C, SQL
- Backend:** Node.js, Express.js, REST APIs
- Databases:** MongoDB, MySQL, PostgreSQL, Firebase, Supabase, ChromaDB
- Frontend:** React.js, Tailwind CSS, HTML, CSS
- DevOps & Cloud:** Docker, Docker Compose, AWS, Nginx, GitHub Actions, Git, Vercel, Render
- AI/LLM:** LangChain, RAG, Vector Databases, Prompt Engineering
- Testing:** Jest, Supertest, Postman