Vijay Venkat J

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Education

Indian Institute of Information Technology Kottayam (IIITK) *May 2027*
B.Tech Computer Science and Engineering CGPA: **8.65**

Technical Skills

- **Programming Languages:** JavaScript, TypeScript, Golang, Python, C++
- **Developer Tools and Frameworks:** Git, Github, Postman, Langchain, NextJS
- **Cloud and DevOps:** AWS, GCP, Azure, Jenkins, Docker, Kubernetes
- **Penetration Testing Tools:** Kali, BurpSuite, OWASP Zap, Nmap, Gobuster, Sublist3r, Nuclei, Ffuf

Experience

Granville Tech ***April 2025 — June 2025***
Backend Developer Intern

- We built the server infrastructure for a scalable **AI-enhanced EdTech solution**, incorporating live class broadcasting with customized AI-guided educational modules.
- Developed a budget-friendly **live video delivery system** utilizing **SRT**, **HLS**, **FFMPEG**, and **AWS ECS**, achieving a **70+%** reduction in streaming expenses while maintaining seamless adaptive video quality.
- Addressed N+1 query problems and improved database performance through query restructuring and index implementation, resulting in a **40%** decrease in average API latency.

Projects

- **LiveTran** (livetran.vijayvenkatj.me) — *Go, SRT/WebRTC, HLS, FFmpeg, Cloudflare R2* ***March 2025 – Present***
  - Built a self-hostable, high-performance live streaming platform in Go that ingests video over **SRT** and **WebRTC**, transcodes it in real-time using **FFmpeg**, and serves adaptive-bitrate **HLS** streams with ultra-low latency.
  - Optimized for scale with multi-bitrate HLS outputs (1080p, 720p, 480p), auto-scaling hooks, and **LL-HLS** support for ultra-low-latency streaming.
- **ClaimBeaver** (ClaimBeaver) — *LangChain, Next.JS, Redis, Prisma ORM, PostgreSQL* ***March 2025***
  - Built an AI-powered insurance claims resolver using **Next.js, LLM microservices, and RAG architecture**; reduced claim processing time by **40%**.
  - Boosted server-side efficiency through **Redis cache integration**, achieving a **90%** decrease in database access times. Introduced **Message Queues** for effective **asynchronous operations**, enhancing system responsiveness and scalability.

Achievements

- **VulnX CTF 2025 - Runner Up** Placing 2nd out of more than 70 participants in VulnCon's Capture the Flag competition.
- **BITS Goa CTF 2025 – Achieved Global Top 10** Placing ninth worldwide out of 800+ teams in BITS Goa's premier 48-hour Capture the Flag competition.
- **Ranked in the Top 3% on TryHackMe** Demonstrates practical proficiency in cyber security, CTF challenges and ethical hacking techniques.