

PRANAV KISHAN T Y

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Full-stack engineer specializing in scalable, high-performance web systems. Experienced in architecting end-to-end solutions by integrating responsive, component-based interfaces with low-latency backends. Focused on database optimization, automated CI/CD pipelines, and maintainable cloud-native infrastructure.

EDUCATION

Amrita Vishwa Vidyapeetham, Coimbatore, India

2023 – 2027

Bachelor of Technology - Computer Science and Engineering - CGPA - 8.69

- **Relevant Coursework:** Data Structures and Algorithms, OOP, Operating Systems, Computer Networks, Database Systems, Software Engineering, Machine Learning, NLP, Computational Intelligence

PROJECTS

InfoStuffs Repo 🛡️ Live 🌐 Blog 📱 | React.js, MongoDB, Express.js, Node.js, Vercel, Docker

A Zero-Trust personal information manager ensuring end-to-end privacy via client-side cryptography.

- Engineered a **Hybrid Serverless architecture**, utilizing **Docker** for consistent local development while deploying the backend as stateless **Vercel Functions** to optimize costs.
- Architected a **Zero-Trust security model** using **client-side AES-256** and **PBKDF2**, ensuring the database and backend infrastructure remain blind to plaintext user data.
- Resolved complex **CORS and routing conflicts** between monolithic and serverless environments by implementing custom **file-based routing strategies**, ensuring seamless API reliability.

Netwatchpy Repo 🛡️ PyPI 🎫 | Python, SQLite, GitHub Actions

A cross-platform, installable TUI for real-time network usage monitoring.

- Refactored SQLite schema from text strings to **Unix Epoch integers**, reducing range query latency by ~40% via optimized **B-Tree indexing**.
- Engineered a **fault-tolerant SQLite WAL architecture** to process real-time telemetry and render 24-hour bandwidth metrics without database locks.
- Streamlined the software lifecycle using **GitHub Actions**, automating **cross-platform binary builds** and schema migrations for consistent updates.

MCP Agentic Microservice Repo 🛡️ | FastAPI, httpx, Render

WhatsApp-based AI integration project developed for Puch.AI Hackathon.

- Deployed an **asynchronous microservice** using **FastAPI** and **httpx**, enabling **non-blocking**, real-time web access for AI agents via the Model Context Protocol (MCP).
- Leveraged **Async I/O patterns** to support **concurrent tool execution**, significantly reducing system latency during external API calls and web scraping workflows.
- Secured the architecture with **Bearer Token authentication** and enforced **robust error handling logic** to validate requests and maintain stability in production.

TECHNICAL SKILLS

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

Backend and Systems: FastAPI, Node.js, Express.js, REST APIs, Microservices, System Design

Frontend: React.js, HTML, CSS, Tailwind

AI and Data: LLM Integration (MCP), Data Pipelines, Vector Embeddings

Databases and Cloud: SQLite, MySQL, MongoDB, Google Cloud Platform, Supabase

Tools and Platforms: Git, Docker, Linux, Bash, GitHub Actions

EXPERIENCE

Full-Stack Developer - Intel IoT Club ↗

November 2025 – Present

- Appointed to oversee the post-deployment lifecycle of the **TNPSC Academy** platform, ensuring system stability and managing the transition from active development to long-term maintenance.
- Contributed to the club's official website development and optimized UI workflows for the **EasyEPFO** platform during its early restructuring.

Member - ACM Student Chapter ↗

May 2025 – Present

- Implemented modular components across the chapter website and SOC to support flexible updates and SOC operations.

ACHIEVEMENTS

- Our team secured **39th place** in the Puch.AI Hackathon with over **25,000 participants**.
- Selected for the **Visteon Scholar Program**, a competitive mentorship initiative for engineering undergraduates.

CERTIFICATIONS

• Intro to Distributed SQL and CockroachDB

• Google Cloud GenAI Series

• IETE Docker Workshop