

Thejus A *Software Engineer | Backend • IoT • Embedded Systems*

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Software Engineer who likes building things end-to-end from backend systems and mobile applications to embedded hardware and self-hosted infrastructure. I build to understand how things work, turning ideas into real, working systems.

📁 PROFESSIONAL EXPERIENCE

Junior Software Engineer, Cubet Techno Labs 📁 07/2026 – Present | Kochi

- Develop Python backend services and REST APIs.
- Work with PostgreSQL, authentication, and real-time features.
- Optimize APIs and database performance.
- Collaborate through Git workflows, code reviews, and agile practices.
- Contribute to scalable and maintainable backend systems.

Software Development Intern, Cubet Techno Labs 📁 01/2026 – 07/2026 | Kochi

- Contributed to internal CRM and collaboration projects.
- Enhanced Teams bot features and workflow automation.
- Worked on CRM modules, integrations, and reporting features.
- Used GitLab workflows, merge requests, and code reviews.
- Performed SonarQube checks and resolved code quality issues.
- Assisted in testing, debugging, and deployment activities.

Intern – Artificial Intelligence & Machine Learning 06/2025 – 06/2025 | Aluva

NeST Cyber Campus (a division of NeST Group) 📁

- Gained practical exposure to real-world AI/ML applications.
- Built a Medical Insurance Cost Prediction web application.
- Applied machine learning techniques to improve prediction accuracy.
- Developed a Flask interface for real-time predictions and visualization.
- Worked with Python, Flask, Pandas, and Scikit-learn.

📁 PROJECTS

Gravity Music : Cross-Platform Music Streaming App 📁, (Flutter | Supabase | Hive | YouTube APIs) 06/2026 – Present

- Developed a cross-platform music streaming application for Android and desktop platforms.
- Implemented offline caching, playlist downloads, and persistent playback.
- Integrated Google Sign-In and Supabase cloud sync for playlists and liked songs.
- Designed a layered playback architecture with background processing and media controls.

MotoNav : Motorcycle Navigation Companion System 📁 05/2026 – Present

(Flutter | ESP32-C3 | BLE | Embedded Systems)

- Built a real-time motorcycle navigation system using Flutter and ESP32-C3 with a circular TFT display
- Implemented BLE-based turn-by-turn navigation with custom binary packet communication
- Developed Tripper-style embedded UI in MicroPython with smooth partial screen rendering
- Integrated OpenStreetMap routing, offline maps, compass orientation, and live GPS tracking

HomeLab : Self-Hosted Infrastructure 📁, (Debian | CasaOS | Docker | Jellyfin | Samba) 05/2026 – Present

- Repurposed an old Dell laptop into a personal home server.
- Run and manage services including Jellyfin, NAS/Samba and CasaOS.
- Built infrastructure to experiment, deploy and host my own projects.

EEVEE : Self-Hosted Media Streaming Platform 📁, (Jellyfin | .NET | Web | Linux) 06/2026 – 07/2026

- Built a personalized media streaming experience around Jellyfin.
- Customized the web interface with a modern, cinematic UI.
- Self-hosted and managed the platform on my own infrastructure.

IRIS : AI-Powered Smart Home Assistant 📁, (Python | FastAPI | Flutter | Embedded AI) 04/2026 – 05/2026

- Developed a local-first AI smart home assistant capable of controlling appliances using infrared communication
- Built custom IR receiver/transmitter hardware using Raspberry Pi Pico 2W and IR blaster circuits
- Implemented voice interaction using Porcupine wake-word detection and Faster Whisper speech recognition
- Designed realtime web and Flutter interfaces for smart appliance control and monitoring

Pico WebChat : Real-time AI Chat System 📁, (FastAPI | WebSockets | Supabase | AI Integration) 02/2026 – 02/2026

- Built a full-stack real-time chat application using FastAPI and WebSockets for instant communication
- Implemented public chat, private messaging, and live active user tracking
- Developed Pico AI assistant using Groq API (LLaMA 3.1) with persistent memory stored in database

- Designed secure authentication system using JWT + HTTP-only cookies middleware
- Integrated Supabase (PostgreSQL) for scalable data storage and chat history persistence
- Engineered auto-reconnect WebSocket handling for stable real-time communication

Remote-X: Smart IR Remote App (Raspberry Pi Pico W | Flask | Flutter) 01/2025 – 02/2025

- Built an end-to-end IoT system enabling remote control of appliances over the internet using IR signal replication
- Programmed Raspberry Pi Pico W firmware to mimic physical remote signals for universal compatibility
- Designed and deployed Flask REST APIs on Vercel for global device access
- Developed Flutter mobile app for real-time device control and monitoring
- Planned AI-based voice control and climate-aware automation for smart home intelligence

Smart Attendance System (IoT | RFID | Flask | MongoDB) 02/2024 – 03/2024

- Developed real-time attendance system using RFID + Raspberry Pi Pico integrated with cloud backend
- Built REST APIs and deployed on Vercel for live synchronization
- Created Flutter app for students to track attendance in real-time
- Automated attendance workflow, reducing manual effort by 80%+

 EDUCATION

Bachelor of Technology in Computer Science, SNGCE 2022 – 2026 | Kochi

Higher Secondary Education (Computer Science), Kendriya Vidyalaya 2020 – 2022 | Kochi

 SKILLS

Programming Languages

Python, Java, C, Dart

Frameworks & Tools

Flutter, Flask, FastAPI, Riverpod, WebSockets

Databases

MySQL, MongoDB

IoT & Embedded Systems

ESP32-C3, Raspberry Pi Pico, BLE, SPI Displays, RFID, IR Systems

Web Technologies

Web Scraping, API Development

Operating Systems

Linux, Windows

Machine Learning

Scikit-learn, Pandas, NumPy

 CERTIFICATES

- NeST Internship 
 - HackerRank – REST API (Intermediate) 
 - HackerRank – Python (Basic) 
- HackerRank – Software Engineer Intern 
 - HackerRank – SQL (Basic) 

 LANGUAGES

Malayalam((Native)) | **English**((Fluent)) | **Hindi**((Conversational))

 INTERESTS

Backend engineering & scalable APIs, Building IoT systems, Hardware experimentation