Abishek Veeramalai

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PROFILE

Full-stack engineer (1.5 yrs) who takes features from system design to production. Sole engineer on system design for a SCADA/HMI operator platform now running in live CNC machine shops; built the multi-tenant auth service and full mobile app for a CMMS SaaS platform. React/TypeScript, ASP.NET Core, PostgreSQL. Based in Coimbatore, India, open to remote and on-site opportunities.

EXPERIENCE

MachDatum · **Full Stack Developer (Full-time)** Oct 2025 – Present

Coimbatore, India

- Sole engineer on system design for a production SCADA/HMI operator platform now deployed in CNC machine shops — led architecture and delivery end to end (2-person team) over a 3-month build, integrating live CIMCO machine-monitoring data (Fanuc CNC drives).
- Delivered the platform's real-time layer end-to-end: dual-SignalR live dashboards, job lifecycle tracking, downtime logging, a 6-format document viewer, an 11-tab admin configuration system, and localization across 3 languages.
- Replaced a manual, multi-step certification process with automated PDF generation on an industrial valve-compliance system, cutting report delivery to one bulk-download action, under a 1-month deadline.
- Built the multi-tenant identity layer (OAuth2/OIDC via OpenIddict) securing a 6-service CMMS SaaS platform — 4-strategy tenant resolution, role-based access control, and invitation/lockout flows — iterating after a design review caught gaps in the first draft.
- Shipped the only mobile channel for field maintenance technicians on the same platform: a fully offline-capable React Native (Expo) app with QR/barcode scanning, GPS, and push notifications, alongside the Parts & Inventory module.
- Contributed core modules — assets, work orders, parts & inventory — across 2 web clients on a multi-tenant platform secured by PostgreSQL row-level security for per-tenant data isolation.
- Currently extending the platform with AI-assisted work-order and asset search built on OpenAI embeddings (early-stage) — part of an ongoing push to learn and adopt AI-assisted development practices, including using AI coding tools (Claude Code) day-to-day.

MachDatum · **Full Stack Developer Intern** Jan 2025 – Oct 2025

Coimbatore, India

- Researched and delivered a PDF-generation library migration (Spire.Pdf → Syncfusion.Pdf) for a Royal Enfield quality-management system — first independent technical R&D decision, later reused on a second project's report migration.
- Migrated the same system's frontend component library from Chakra UI v2 to v3.
- Designed and built the mobile booking app and admin web dashboard (10–16 configurable widgets, 8 report types) for a corporate canteen-management system spanning 3 client-facing surfaces (mobile PWA, web admin, Android kiosk) — first .NET/PostgreSQL project, ramped from a React-only background.
- Implemented the RFID-based meal-serving flow for a native Android kiosk app deployed across 4 tablets, embedding a React web build inside a native Android shell (WebView) with ACS smart-card hardware integration — avoided a full React Native rewrite.

- Added IPv6 support and ICMP-fallback outage classification to a network-monitoring product's probing engine — one of 28 merged PRs on its GitHub repo.
- Improved frontend UX on the same product using TanStack Query for granular loading/error states and Chakra UI skeleton loading screens.

EDUCATION

B.E., Computer Science and Engineering 2022 – 2025
PSG Institute of Technology and Applied Research, Coimbatore, India

SKILLS & INTERESTS

Backend & Data: C#, ASP.NET Core (MVC), Entity Framework Core, NHibernate, PostgreSQL, SQLite, Hangfire
Frontend: React, React Native (Expo), TypeScript, Vite, TanStack Query, Chakra UI, AG Grid
Real-time & Auth: SignalR, OpenIddict (OAuth2/OIDC)
AI & Automation: OpenAI embeddings/RAG (early-stage), AI-augmented development workflow (Claude Code)
Tools & Integration: REST API integration, Syncfusion, i18next (React localization/i18n), YAML-based configuration, Android WebView integration
DevOps & Infra: Git, Inno Setup (Windows installer builds), PowerShell build automation, Windows Service hosting, on-premise server deployment, Proxmox VE (VM provisioning, resource allocation), Alpine Linux, Nginx/Caddy reverse proxying
Language: English (Fluent), Tamil (Native)
Domain Knowledge: CMMS platform architecture, MES/SCADA-HMI (CNC, Fanuc, CIMCO integration), EHS/manufacturing safety (Root Cause Analysis, CAPA lifecycle, Hierarchy of Controls), industrial valve-manufacturing compliance (heat-number traceability, ASTM/API/PED/EPA certification)
Interests: Audiophile & personal audio systems, 3D printing, cinephile