MD ABDUL JABBAR

Software and AI Engineer | Melbourne, VIC
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SUMMARY

A children's cancer ward in Bangladesh ran on paper. I founded PulseNote and lead its engineering: a clinical record app with an AI document reader and a ward assistant that cites every answer and never writes a number itself. Clinicians at Bangladesh Medical University use it daily. More than 1,000 documents processed; clinicians correct about one in eight extracted fields on review, which is why nothing is saved without one. Swinburne software engineering graduate (May 2026). I work in TypeScript, React, Node and PostgreSQL, build LLM features on Azure OpenAI and Gemini, ship through GitHub Actions with automated tests, and use Claude Code daily. Looking for a junior software or AI engineering role in a Melbourne product team.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, SQL, HTML, CSS, Python (Pandas, NumPy; internship level)
AI engineering: LLM document extraction, retrieval augmented generation, model evaluation harnesses, Azure OpenAI, Azure AI Search, Azure Document Intelligence, Gemini on Vertex AI, AWS Bedrock, Claude Code (daily)
Frontend and mobile: React, React Native (shipped to Google Play), Next.js, Tailwind
Backend and data: Node.js, Azure Functions, REST APIs, Prisma, PostgreSQL, MariaDB, Supabase, Firestore, OAuth2 and JWT, role-based access control
Delivery: Git and pull-request workflow, GitHub Actions CI/CD, Jest, k6 load testing, gitleaks secret scanning, Docker, Railway, Cloudflare, Jira
Healthcare data: FHIR R4, LOINC, ICD-10 (building toward Bangladesh's national BD Core FHIR standard)

EXPERIENCE

Lead Engineer | PulseNote (pulse-note.com), Melbourne *2025 - Present*

Founder-led clinical record app, in daily pilot use by clinicians in the Department of Paediatric Haematology and Oncology, Bangladesh Medical University. Deployed on site; built and changed from the department head's and clinicians' feedback.

- Build and maintain the **React Native app** (Google Play), the **React web portal** and the **TypeScript backend on Azure Functions**, with Firestore, OAuth2/JWT and role-based access control. Identifiers are stored apart from clinical records, designed after studying GDPR and Bangladesh data protection law.
- Built the **AI document reader**: prescriptions go through OCR, then every drug name is reconciled against the **DGDA register of about 40,000 medicines** (exact, edit-distance and phonetic matching) before an LLM may name a drug; clinical notes and reports are read by a multimodal LLM with ICD-10, LOINC and date checks. A clinician confirms every field before anything is saved.
- Built the **evaluation harness** that decides which model ships: precision and recall per field, model comparison on accuracy and cost per document, results split by printed vs handwritten, English vs Bengali, photo vs scan.
- Built **PulseAI**, a retrieval-augmented assistant on **Azure OpenAI** that answers from the child's own record and ward protocols. Every statement cites its source, numbers are calculated by code, and a safety gate built on a drug index of about 2,600 generics rejects any drug name the chart does not support.
- Built a **voice scribe** (transcribed with Gemini) that turns a spoken ward brief into the same structured record, with the doctor choosing from register-matched drug candidates.
- **In progress:** building toward Bangladesh's national FHIR standard (BD Core): FHIR R4 export, the national LOINC lab-code list with codes chosen by reviewers, and an offline FHIR conformance check in CI. Not yet connected to the national system.
- Run a **GitHub Actions pipeline** on every pull request: secret scanning, automated test suites for web, mobile, backend and security rules, a build gate and staging deploys. Built an automated **pull-request reviewer on AWS Bedrock (Claude)**.

Full Stack Engineering Intern | CogniBuild, Melbourne *Oct 2025 - Feb 2026*

- Worked inside the team's existing **TypeScript** codebase on customer-requested features; every change went through **pull requests and code review** before merging to main, within a CI/CD delivery process.
- Built and consumed **REST APIs** between frontend and backend with request validation, error handling and a third-party integration.

Data Analytics Intern | Prompcorp Pty Ltd, North Melbourne *Jan 2025 - Jun 2025*

- Wrote **SQL (PostgreSQL, MariaDB)** and **Python (Pandas, NumPy)** pipelines for the migration to an in-house **ERPNext / Frappe** platform.
- Integrated the legacy and new systems through **REST APIs** and validated data during the migration.

SELECTED PROJECTS

Lead Engineer | Travista OS (travistabd.com), family retail business *2024 - Present*

Replaced a paper ledger and phone calls for a business where nobody on the floor is technical.

- Built **point of sale, inventory, sales and corporate-client portals** plus the public website as a **Turborepo monorepo** with **Next.js (TypeScript)** and **React Native**, on one shared **Prisma / PostgreSQL** schema.
- **Offline-first point of sale** (IndexedDB) that keeps trading when the connection drops; each inventory change and its audit log entry are written in **one database transaction**, so stock never half-updates.
- **Role-based permissions checked against the database on every protected route**, never trusted from the login token alone. Hosted on Railway with Supabase (PostgreSQL and Auth), Cloudflare and a Sanity headless CMS.

Onco Scanner (leukaemia decision support) | built with a haematology department head *In validation*

- Reads a child's blood count and either flags suspected leukaemia or stays silent. Deliberately removed the "no concern" result so it can never falsely reassure. Where an AI-generated document disagreed with the department head's instructions, the instructions won.
- In safety and quality validation at Bangladesh Medical University; not in clinical use.

EDUCATION

Bachelor of Engineering (Software) | Swinburne University of Technology *Mar 2022 - May 2026*

- Academic Merit Scholarship; Swinburne Student Achievement Award.
- **Elected Student Representative, Academic Senate (2025):** sat on the University's highest academic body and argued for lighter late-submission penalties and automatic extensions.
- **President, Swinburne Islamic Society (Oct 2024 - Dec 2025):** ran committee operations, budgets and events for a large student organisation.

OTHER EXPERIENCE

Sales Assistant (part-time) | The Good Guys *2022 - Present*

- Direct customer-facing sales, product advice and point-of-sale operations.