

Cheng-En Tsai (Josh)

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GitHub | Portfolio

Languages: English / Mandarin (Native)

Visa Status: Graduate Visa (Subclass 485) – Full Working Rights (No Sponsorship Required)

PROFESSIONAL SUMMARY

Full-stack software engineer with a strong frontend focus and 7+ years of commercial experience building high-traffic web applications with React, TypeScript, and Vue.js. Recently delivered a full-stack freelance project end-to-end as sole developer — a bilingual lab platform with RBAC, instrument reservation system, and AI chatbots (Next.js, Supabase, Gemini API), architected and built using Claude Code. Comfortable working across the full stack — Node.js, PHP, Supabase, PostgreSQL, and MySQL. Master of IT from UTS (Dean's List 2025 & 2026).

TECHNICAL SKILLS

Frontend: React.js, Vue.js, Next.js, TypeScript, JavaScript (ES6+), HTML5, CSS3/SASS, Tailwind CSS, Bootstrap, shadcn/ui, Umbraco CMS (Headless + Hybrid)

State & Data: Zustand, Redux Toolkit, TanStack Query (React Query)

Backend & Database: Node.js, Supabase (Auth + PostgreSQL + RLS), MySQL, PHP, Python

Testing: Jest & Vitest (unit), Playwright & Nightwatch.js (E2E), axe (accessibility), Selenium with Python (academic)

SEO & Performance: Server-Side Rendering, Structured Data, Google Tag Manager, Core Web Vitals

Tools & Workflow: Git/GitHub, CI/CD, Vite, Linux/CLI, VS Code, Agile/Scrum, Claude Code (AI-assisted development)

Cloud & AI: AWS (S3, deployment environment), Vercel, Google Gemini API (streaming, function calling)

PROFESSIONAL EXPERIENCE

Frontend Engineer

Apr 2018 – Jan 2024

104 Corporation, Taipei, Taiwan | Taiwan's largest job search platform — 7M+ MAU

- Core Development & Scale:** Built and maintained core frontend features using React and Vue.js for a platform serving 7M+ monthly users, delivering interactive search pages, SSR landing pages, and a shared UI component library.
- Performance & SEO:** Owned SEO and web performance across the frontend — implementing structured data markup, Google Tag Manager, and Core Web Vitals optimisations that noticeably lifted organic search rankings. Conducted quarterly codebase refactors.
- Testing & Quality:** Introduced E2E tests (Nightwatch.js) and unit tests (Jest) into the team's workflow, gradually expanding coverage and reducing reliance on manual QA.
- Cross-Functional Delivery:** Integrated multiple internal APIs across product features, collaborating with back-end engineers, database developers, and product managers in a CI/CD environment with staging deployments on AWS. Mentored teammates on frontend best practices.
- Data & Automation:** Built Python-based web scrapers to collect and process data for internal use.

Full-Stack Developer

Aug 2016 – Apr 2018

The Ewebs Company, Taipei, Taiwan | E-commerce agency

- Backend & CMS:** Developed back-end services using PHP and MySQL, handling database operations, server logic, and third-party API integrations. Built and maintained client websites using Umbraco CMS.
- Frontend Development:** Built responsive frontend interfaces with JavaScript and jQuery, delivering user-friendly e-commerce experiences.

- **Platform Integration:** Integrated APIs from Taiwan's two largest e-commerce platforms (Yahoo and Momo), enabling automated product listings and data synchronisation.
- **Team Collaboration:** Collaborated with designers and developers to deliver client projects on time and to specification.

FEATURED PROJECTS

Photonics Physics Lab Website (mjw-opto.com)

- Live full-stack site for a real client (a university physics lab).
- **Stack:** Next.js (App Router), React 19, TypeScript, Supabase, Prisma.
- **Reservation system:** state machine with conflict detection, QR-code checkout, and idempotent scheduled jobs — suspension and quota as derived state, no redundant tables.
- **Access control:** three-tier RBAC with an orthogonal per-instrument manager permission dimension.
- **Ownership:** sole developer; spec-driven, AI-orchestrated build with Claude Code, owning all architecture and technical decisions. Deployed on Vercel.

Developer Portfolio Website (Full-Stack + AI Case Study)

- Single Next.js 16 codebase serving a public site and a full custom admin CMS.
- **AI:** database-grounded chatbot behind a provider-agnostic adapter (swap LLM in one file); AI writes are always drafts, enforced at the write path.
- **Security:** Supabase Row-Level Security enforced at both app and database layers.
- **Testing:** 330 unit (Vitest) · 59 E2E (Playwright) · 10 axe accessibility scans, all green in CI.
- **Docs:** 17 ADRs covering every load-bearing decision. Deployed on Vercel.

EDUCATION

Master of Information Technology (Extension)

Feb 2024 – Dec 2025

University of Technology Sydney (UTS) | Major: Interactive Media

- Dean's List 2025 & 2026 — Faculty of Engineering & Information Technology (outstanding academic achievement)
- High Distinction coursework: .NET Application Development, Enterprise Software Testing, Game Development, iOS Application Development, 3D Animation, Interactive Media, Advanced Interaction Design, Data Driven Storytelling Studio, Project Management

Bachelor of Business Administration

Sep 2009 – Jun 2015

National Taiwan University | Major: Information Management (Information Systems)