

Teoh Jia Jing

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Software Developer focused on **systems, infrastructure, and full-stack applications**. Mechatronics Engineer turned software dev – I build reliable systems from edge device sync engines, end-to-end applications and developer tooling.

PROFESSIONAL EXPERIENCE

Backend Team Lead

Studio Twenty Sdn. Bhd.

Bangsar, Kuala Lumpur

Jul 2025–Present

- Own **architecture decisions, code review** for the backend team; established **CI/CD pipelines, Docker-based deployments**, and review workflows now used across projects.
- Mentor backend engineers and **drive hands-on delivery** on the challenges faced – multi-tenant data isolation, **API Design**, and **automation workflows**.
- Act as **technical point of contact** for clients – **gather requirements, translate business needs** into architecture proposals, and walk non-technical stakeholders through trade-offs and delivery decisions.

Backend Developer

Studio Twenty Sdn. Bhd.

Bangsar, Kuala Lumpur

Mar 2024–Jul 2025

- Built Malaysia's **E-Invoice TypeScript SDK library** – document validation, digital signature and **LHDN API integration**.
- Designed and shipped backend services and REST APIs with **NestJS, ElysiaJS, PostgreSQL, MongoDB** and more with **role-based access control** and **multi-tenant data isolation**.
- Delivered content-managed client sites with **Next.js + PayloadCMS** and collaborated with designers on **AI-first prototyping** workflows.

Software Developer (Part Time)

ViTrox Agritech Sdn. Bhd.

Batu Kawan, Penang

Jan 2024–Present

- **Maintain and ship** features for a web application used across internal teams and customers.
- Built a **cross-platform desktop** data synchronization and automation tool, with **offline-first data handling** and **background sync** to web applications.

EDUCATION

Universiti Tunku Abdul Rahman (UTAR)

Bachelor of Mechatronics Engineering with Honours,
1st Class Honours (CGPA: 3.73/4.0)

Cheras, Selangor

Jan 2024

National Taipei University of Technology (NTUT)

The New Southbound Policy Elite Study Program

Taipei, Taiwan

Jan 2023

SKILLS

Languages: TypeScript, JavaScript, Python, Rust, SQL

Frontend: Vue, React, NextJS, NuxtJS, Expo, Tailwind, ThreeJS

Backend: NestJS, ElysiaJS, Hono, Mastra, RESTful API

Databases: PostgreSQL, SQLite, Redis, MongoDB

Infrastructure & DevOps: Docker, Github Actions, Nginx/Caddy, Terraform

Tools & Practices: Tauri, MQTT, Vitest, Playwright, Monorepo, TDD

PROJECTS

E-Invoicing SDK Open Source

Published npm package for Malaysian e-invoicing. XML/JSON signing, certificate handling, per-endpoint sliding-window rate limiting, and multi-tenant support. *NodeJS, Vitest.*

Edge Device Sync Engine IoT Platform

Offline-first bidirectional sync between IoT field devices and cloud. Conflict-resolution engine on **ElectricSQL** with custom debounced watchers; reliable operation even with low quality network connections. *Tauri, SQLite, MQTT.*

Hospitality Management Platform Enterprise Platform

Unified PMS, **Electron**-based POS, and e-invoicing portal on a typed monorepo with real-time **WebSocket**-driven order management. *NextJS, NestJS, Electron.*

ReproJS – Embeddable Feedback SDK Open Source

Framework-agnostic bug-report widget with annotated screenshots, 30-second session replay, and a self-hostable **Nuxt triage dashboard**. Open source and **Docker**-deployable end-to-end. *Preact, Nuxt, Better Auth, Docker.*

Enterprise B2B Survey Platform

B2B assessment platform with **organization-scoped RBAC**, **dual-database** architecture (**PostgreSQL** for transactions, **TimescaleDB** for audit/metrics), and **Terraform**-provisioned **AWS** infrastructure. Hardened with **k6 load testing** and **Playwright e2e** suites in CI. *NextJS, ElysiaJS, Drizzle, Better Auth, Terraform.*

AI Trip Planner

AI assisted itinerary builder that converts user intents into structured day plans through a **Mastra agent (Google Gemini + Vercel AI SDK)**, with every suggested place validated against **Google Places API** to eliminate LLM hallucinations. Includes collaborative trip editing with **role-based voting**, **encrypted passport/reservation storage**, and a **ThreeJS** visited-countries globe. *Nuxt, Mastra, Drizzle, Better Auth, ThreeJS, Neon PostgreSQL.*

AWARDS

- IEEE Innovation Malaysia 2nd Runner Up, working on a vein finder device.
- DBSnbiz Global Startup 2nd Runner Up, working on a vein finder device startup competition in South Korea.
- Greatech Award for Innovative Excellence Bronze Award, for the design of automated assembly machine.