

Ethan Chen Lu

Full-stack Developer | AI Workflow Systems | Healthcare IT

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PROFILE

Full-stack developer and AI workflow systems builder with 4+ years of healthcare IT delivery experience and recent hands-on work across AI-assisted workflow products, local-first desktop tools, and analytics projects. Completed the requirements for a Master of Information Technology with First Class Honours at the University of Auckland. Focused on building structured, reliable software that turns ambiguous operational and decision-making workflows into explicit data models, staged processes, and reviewable outputs.

TECHNICAL SKILLS

Languages	TypeScript, JavaScript, Python, SQL, C#, HTML, CSS
Frontend	Next.js, React, Tailwind CSS, responsive UI, component-driven development
Backend and Data	FastAPI, Node.js, PostgreSQL, SQLite, SQL Server, Prisma, Drizzle ORM, REST APIs
AI-assisted Workflows	structured extraction, staged workflows, async AI workflow handling, provider abstraction, report generation
Delivery and Operations	Git, GitHub Actions, Vercel, Render, IIS, CI checks, deployment troubleshooting, operational support

SELECTED PROJECTS

IdeaSense AI

2025 - Present

Independent full-stack and AI workflow product

- Built an AI-assisted venture evaluation system that guides users through a structured 30-60 minute Desirability, Viability, and Feasibility (DVF) assessment instead of unconstrained chat.
- Implemented project workspaces, staged conversations, structured extraction, scoring, report export, authentication, and deployment using Next.js, React, TypeScript, FastAPI, PostgreSQL, Vercel, Render, and Render Postgres.
- Designed the data model to separate conversation logs, user-confirmed facts, review queues, scoring records, and generated reports, making the workflow more auditable and easier to extend.

Algo Platform

2025

Local-first desktop algorithm practice platform

- Extended a course-originated Electron, React, Express, TSOA, Prisma, and SQLite desktop coding practice platform into a maintainable local MVP with problem browsing, language presets, submissions, and submission history.
- Delivered the programming language module end to end, covering schema and seed data, CRUD APIs, admin UI, frontend hooks, editor language switching, and tests.
- Improved packaging and runtime stability for local desktop usage, connecting local execution metadata, starter code, language preferences, CI-style checks, and macOS arm64 smoke testing.

Airline Booking Value Modeling and Revenue Driver Analysis

2025

Analytics and machine learning project

- Built a booking-level revenue modeling pipeline using Python, pandas, scikit-learn, SQLite, Jupyter, and matplotlib on public airline data, joining more than 1 million segment-level rows into 262,788 booking-level records.
- Compared linear regression, decision tree, and random forest models; the random forest model reduced amount-level MAE by roughly 76% versus the linear baseline under the main grouped split.

Locus

2026 - Present

Additional experimental local-first developer tooling project

- Adapted an open-source coding-agent desktop foundation into a local-first developer workspace, focusing on repository/worktree management, terminal workflow UX, provider settings, and local SQLite state.
- Worked across Electron, React, TypeScript, tRPC, Drizzle ORM, better-sqlite3, runtime detection, settings UX, release packaging, and smoke-test documentation.

PROFESSIONAL EXPERIENCE

Gumei Community Health Service Center

Information Systems Specialist / IT & Security Support

Shanghai, China

Jul 2018 - Jan 2023

- Supported clinical systems, network infrastructure, endpoints, reporting workflows, and operational incidents across the main community health centre and satellite sites.
- Built and deployed an internal IP address management tool with C#, ASP.NET, SQL Server, and IIS, replacing spreadsheet-based tracking for around 900 IP records and 500+ asset records.
- Reduced routine IP lookup and allocation time from about 5-6 minutes to under 1 minute and helped bring recurring IP conflicts close to zero through improved records and weekly endpoint checks.
- Coordinated the business-side rollout of a child healthcare system migration from client-server to browser-based architecture, supporting pilots, vendor feedback loops, testing, training, and go-live support.
- Supported a three-month migration cycle with 13 major iterations and helped reduce typical waiting time from about 40 minutes to 20-30 minutes for a workflow used by around 33 clinical and administrative staff.
- Supported emergency healthcare IT operations during a 2022 COVID response setting, including terminal deployment, security configuration, printer/scanner access, staff training, and exception-reporting workflows.
- Coordinated recovery and follow-up improvements during infrastructure incidents, including standby-server switching, recovery coordination, UPS/power stability checks, and database backup improvement actions.

EDUCATION AND CREDENTIALS

University of Auckland

Master of Information Technology, First Class Honours

Auckland, New Zealand

Requirements completed: Mar 2026

- Graduation ceremony scheduled for September 2026.
- Relevant coursework includes Software Tools and Techniques, IT Consultancy, Managing with AI, Data Mining and Big Data, and Advanced Database Systems.

Shanghai Open University

Bachelor of Engineering in Software Engineering

Shanghai, China

2018 - 2022

- Average score: 89.3 / 100.

Shanghai University of Medicine and Health Sciences

Diploma in Health Information Management

Shanghai, China

2015 - 2018

- Foundation in health information management and healthcare information systems.

Certification: System Integration Project Management Engineer (Intermediate).

China

CORE EVIDENCE

- **Full-stack and workflow delivery:** API-backed workflows, authentication, structured data capture, report generation, staged processes, review queues, and auditable outputs.
- **Healthcare IT systems delivery:** clinical system support, browser-based migration rollout, IP and asset management, incident response, and operational reporting.
- **Engineering discipline and analytics:** module-level ownership, API/UI/data-model alignment, CI-style checks, SQL/SQLite preparation, Python analysis, and model comparison.

Languages: Mandarin Chinese (native); English (academic and professional working use).

Referees: Available upon request.