

# ZING JEN CHEW

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## EDUCATION

### National University of Singapore (CAP 4.71 / 5.00)

Bachelor of Engineering, Biomedical Engineering (Hons), Computer Science (MIN), Management (MIN)

Singapore

Aug 2022 – Jul 2026

### Delft University of Technology (TU Delft)

Computer Science (Exchange)

Delft, Netherlands

Feb – Jul 2025

## SKILLS

**Programming Languages:** JavaScript, Java, Python, SQL, Haskell, Agda, R

**Developer Tech Stack:** Next.js, React.js, FastAPI, Node.js, Git, HTML, CSS, Supabase, Stripe API, G Suite API

## EXPERIENCE

### NHG Health, Software Engineer Intern (Full-Stack)

Jul – Dec 2025

- Engineered scalable full-stack solutions for the AINE project, empowering medical educators with interactive, AI-powered tools tailored for clinical learning contexts.
- Delivered critical system components such as the Residency Rotation Scheduler, moving the project from early-stage conceptualisation to functional prototypes.
- Collaborated closely with engineering and medical teams, translating intricate domain requirements into technical specifications to ensure system alignment with clinical needs.

### Respiree, Software Engineer Intern (Frontend)

Aug – Dec 2024

- Spearheaded frontend optimisation and security enhancements for the clinician dashboard using React.js and Ant Design, significantly improving application performance and access control.
- Orchestrated cross-functional deployment cycles across the SLDC, accelerating feature integration and strengthening system verification to ensure seamless releases and consistently high code quality.
- Developed Python automation scripts to populate AWS DynamoDB with patient data, accelerating backend performance testing and data management workflows.

### Genome Institute of Singapore, Data Analytics Intern

May – Aug 2024

- Recognised under the A\*STAR Research Internship Award.
- Engineered statistical models and data pipelines using R to process large-scale clinical datasets (up to 100,000 samples), deriving actionable insights for the BREATHE and SGBCC cohorts.
- Authored a research paper on breast cancer screening behaviours, translating complex data findings into technical publications.

## PROJECTS

### Golden Tikkee | Event Ticketing Platform [ [View Website](#) ]

Nov 2025

- Architected a secure Next.js ticketing platform using Supabase for SSR authentication and Postgres Row Level Security (RLS) to enforce strict data privacy.
- Engineered an automated fulfilment system using signature-verified Stripe webhooks to process payments, asynchronously generate QR codes, and dispatch transactional emails via Nodemailer.

### Residency Rotation Scheduler [ [View Website](#) ]

Jul – Dec 2025

- Engineered a constraint-based scheduling engine using Python (FastAPI) and Google OR-Tools (CP-SAT) to automate complex medical residency rosters, enforcing strict training requirements while optimising for fairness and resident preferences.
- Built an interactive "human-in-the-loop" dashboard with React, TypeScript, and Tailwind CSS, allowing administrators to visualise timetables, pin specific assignments, and iteratively tune solver constraints in real-time.

### Hypercharged.CC [ [View Website](#) ]

Dec 2024 – Present

- Deployed a containerized full-stack analytics platform (React, FastAPI, MongoDB) on AWS EC2, processing hourly game data from official APIs to deliver real-time competitive insights.

### WriteNow [ [View Source Code](#) ]

January 2025

- Developed a full-stack AI-powered digital PA (FastAPI, LangChain, React) for the Singapore Book Council that automates email triage, complex meeting scheduling, and minutes generation via seamless Google Workspace integration.

## INVOLVEMENTS

### Member

2022 – 2026

TeamNUS Varsity Men's Handball Team

### Vice-Captain

2025 – 2026

Temasek Hall Handball (M)

### Captain

2023 – 2024

Temasek Hall Handball (M)