ZING JEN CHEW

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EDUCATION

National University of Singapore (CAP: 4.71 / 5.00)	Singapore
Bachelor of Engineering, Biomedical Engineering (Hons), Computer Science (MIN), Management (MIN)	Aug 2022 - Jul 2026
Delft University of Technology (TU Delft)	Delft, Netherlands
Computer Science (Exchange)	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 — Singapore
Software Engineer Intern (Full-Stack) — Jul 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 — Singapore
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, A*STAR — 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 behaviors, translating complex data findings into technical publications.

PROJECTS

Golden Tikkee | Event Ticketing Platform — 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 fulfillment system using signature-verified Stripe webhooks to process payments, asynchronously generate QR codes, and dispatch transactional emails via Nodemailer.

Residency Rotation Scheduler — 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 — 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 — Jan 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 Mens Handball Team	

Vice Captain 2025 - 2026
Temasek Hall Handball (M)

Captain 2023 - 2024
Temasek Hall Handball (M)