

Lee De En

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Computer Science student at the National University of Singapore with a solid grounding in algorithms, data structures, and software engineering. Through diverse hands-on projects, I have developed practical skills in full-stack web development, machine learning, and cloud computing. I enjoy solving complex problems and building scalable, user-focused solutions. Passionate about using technology to drive real-world impact, I actively seek opportunities to grow through internships. I thrive in fast-paced, team-oriented environments and am excited to contribute to innovative projects that shape the future of technology.

Experience

Software Engineer Internship | Toppan Ecquaria, ISMART (ICA) | Singapore

DEC 2025 – JAN 2026

During my Software Engineering Internship at Toppan Ecquaria, I took initiative in system stability by implementing synchronization locks to eliminate race conditions and successfully resolved complex deadlock scenarios, ensuring the integrity of mission-critical transactions. Additionally, I led quality assurance efforts using Cucumber (Gherkin) to write automated test cases, proactively identifying and resolving backend bugs before deployment. This experience deepened my expertise in resilient enterprise architecture and high-stakes digital identity infrastructure.

Software Engineer Internship | PhillipCapital (Pte Ltd), Digital Innovation | Singapore

MAY 2025 – AUG 2025

During my Software Engineering Internship at Phillip Capital, I prototyped a blockchain-based remittance service built on the Layer 1 Rubix protocol, gaining practical exposure to decentralized systems. I worked extensively with backend technologies, using NestJS to develop microservices, PostgreSQL with ORM for database management, Redis for caching, and RabbitMQ for asynchronous task handling. I also containerized services with Docker to streamline deployment. This experience strengthened my skills in building scalable backend systems and deepened my understanding of blockchain integration in real-world financial applications.

Education

National University of Singapore | Bachelor of Computing in Computer Science | Aug 2023 – Present

University of Texas at Austin | Student Exchange Program (Computer Science) | Aug 2025 – Dec 2025

Singapore Polytechnic | Diploma in Aerospace Electronics (Merit/With Distinction) | Apr 2018 – Apr 2021

Technical Skills

Languages: Java • JavaScript • TypeScript • Python • SQL • HTML/CSS

Frameworks & Libraries: Node.js • Express.js • Spring Boot • React • Next.js

Databases: PostgreSQL • MongoDB • Redis

DevOps & Cloud: AWS (EC2, S3) • Docker • Git • GitHub Actions

Messaging & Queueing: RabbitMQ, IBM MQ

Testing: Cucumber (Gherkins)

Certification:

- AWS Certified Cloud Practitioner [May/2025]
- NUS Apollo 11 (Advanced) [Aug/2024]

Projects

Admin Panel

DEC 2025 – JAN 2026

- Developed a full-stack web application using Next.js and Supabase to provide a secure authentication system featuring Role-Based Access Control (RBAC) and Row-Level Security (RLS), ensuring sensitive administrative data is protected from unauthorized access
- Facilitated a comprehensive technical handover, including infrastructure transfer, while being retained as a long-term technical consultant to oversee ongoing platform stability.

Expense Tracker

MAY 2024 – AUG 2024

- Developed a full-stack web application using **MongoDB, Express, React.js, and Node.js (MERN stack)** to provide a responsive and user-friendly expense tracking solution.
- Implemented real-time transaction management features including adding, editing, and deleting expenses, with automatic recalculation of totals to ensure accurate financial insights.
- Focused on seamless user experience through dynamic UI updates and efficient backend data handling.

Tic-Tac-Toe Game

DEC 2023 – MAR 2025

- Developed an interactive Tic-Tac-Toe game using modern **JavaScript**, featuring both multiplayer mode and an AI opponent powered by the **minimax algorithm**.
- Implemented dynamic game setup, real-time gameplay interactions, and responsive, mobile-friendly design to enhance user experience.
- Demonstrated algorithmic problem solving and front-end development skills through game logic and UI implementation.

Activities

Lion Befrienders @ Mei Ling Street

Volunteer Befriender | AUG 2024 – AUG 2025

- Provided regular companionship and emotional support to elderly residents, building meaningful relationships through weekly visits and activities.
- Assisted with basic needs, social engagement, and promoting mental well-being among socially isolated seniors.
- Developed empathy, active listening, and communication skills in a community outreach setting.