

Darren Ng Yijie

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EDUCATION

Singapore Management University

Bachelor of Science (Software Engineering), Work-Study Degree

- GPA: 3.61/4.00; Dean's List, Academic Year 2025/2026

Singapore

Aug 2024 – May 2028

Nanyang Polytechnic

Diploma in Engineering with Business

- GPA: 3.71/4.00; Director's List, 2019–2021

Singapore

Apr 2019 – Apr 2022

WORK EXPERIENCE

Singapore Economic Development Board

Software Engineering Intern, Singapore Global Network

Singapore

Jun 2026 – Present

- Rebuilt a React/Vite prototype as a Next.js events platform integrating GEVME, Hivebrite, Salesforce, and Luma; integrated SearchSG event search with caching, reducing repeated-query response times from ~3 s to ~0.5 s.
- Migrated an internal React and Node.js/Express data-mapping platform from AWS to GovTech Airbase and implemented AI-assisted field mapping, significantly reducing manual Salesforce data preparation.
- Built GitLab CI/CD pipelines with Vitest, Playwright, and SonarQube for automated testing and staging/production deployments; contributed to Databricks and Apache Spark ETL pipelines using a medallion architecture.

Yong Jin Solutions Engineering Pte Ltd

Full-Stack Developer (Freelance)

Singapore

May 2025 – Apr 2026

- Developed and deployed an SSR company website with an Express.js/Supabase backend, generating 116K+ Google Search impressions and 2.3K+ organic clicks.
- Built contact automation with reCAPTCHA, Telegram alerts, and Gmail auto-replies; self-hosted and secured the backend on a Raspberry Pi with PM2, UFW, and Cloudflare SSL.

Mitsubishi Electric Asia Pte Ltd

HR Digital Transformation Intern

Singapore

Sep 2021 – Feb 2022

- Digitized 20+ paper-based forms and automated multi-level approval workflows using Power Apps, Power Automate, and SharePoint, reducing reliance on manual paperwork.

PROJECTS & ACHIEVEMENTS

TikTok TechJam 2026 – Finalist (Top 12) | *LiuQi*

Sep 2026

- Built Mastra-based multi-agent orchestration with validated supervisor routing, bounded context handoffs, and persisted write leases for coordinating agents on shared code.
- Implemented human approval gates for sensitive agent tools with execution claims and cancellation checks to prevent duplicate or stale tool invocations.
- Optimized agent context with handoff deduplication and reusable prompt prefixes; configured BytePlus prompt caching and cache-aware token tracking to reduce and diagnose repeated input costs.

AI-Powered Learning Management System | *React, Spring Boot, FastAPI*

Jan 2026 – Apr 2026

- Co-developed a Dockerized microservices platform with FastAPI services for vector similarity detection, OpenAI moderation, chatbot and AI role-play workflows, using RabbitMQ workers for long-running tasks.
- Implemented Keycloak role- and ownership-based access control, service-to-service authentication, WebSocket live chat, automated tests, and GitHub Actions CI/CD.

Facial Recognition Attendance System | *Java, Spring Boot, OpenCV, AWS*

Aug 2025 – Oct 2025

- Improved real-time face-recognition throughput from 10 FPS to 40+ FPS (4×) using multithreaded frame processing and temporal consistency; built WebSocket streaming and an asynchronous S3/SQS training-image pipeline.

ADDITIONAL EXPERIENCE

Singapore Management University | *Teaching Assistant, Object-Oriented Programming (IS442)*

Jan 2026 – May 2026

Coders Assembly | *Programming Mentor, Programming Fundamentals (CS102)*

Jan 2026 – May 2026

TECHNICAL SKILLS

Languages: Java, Python, TypeScript, JavaScript, SQL

Frameworks: Next.js, React, Node.js, Express.js, FastAPI, Spring Boot, Mastra, OpenCV

Data, Cloud & Tools: AWS, GovTech Airbase, Databricks, Apache Spark, PostgreSQL, Supabase, MySQL, MongoDB, Docker, OpenTelemetry, GitLab CI/CD, GitHub Actions, Vitest, Playwright, SonarQube