Ryan Chen Rui Yang

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WORK EXPERIENCE

SWE Undergraduate Teaching Assistant – NUS
Aug 2025 - Dec 2025

- Mentored students in Java, explaining Git, CI/CD pipelines, SDLC, software testing, and software architecture for scalable and efficient systems, achieving a 100% pass rate with B+ or better scores, and a tutor rating of 4.5/5.0.
- Contributed to refinement and development of course materials, including walkthrough guides and sample code.
- Reviewed and graded student code against established coding principles, providing timely feedback to reduce errors in future submissions by about 70%.

Cloud & Software Engineer Intern – HTX, Singapore
May 2025 - Aug 2025

- Implemented a REST API framework in Microsoft Power Automate to automate image ingestion pipeline for HTX HR, reducing manual data entry by 80% every week, and ensuring 100% availability for continued usage..
- Used Workato to automate tracking of external contractor leave, connecting a SharePoint data source with an external interface, eliminating 20 hours spent monthly on data syncing and email tracking across departments.
- Created Agentic AI agents to streamline operational workflows and improve manual analysis of documents by cutting repetitive processing tasks by 50%.

EDUCATION

National University of Singapore
Aug 2023 - May 2027

Bachelor of Computing (Hons.) Computer Science

- Relevant modules taken: Data Structures and Algorithms (CS2040C), Java Programming Methodology (CS2030S), Computer Networks (CS2105), Software Engineering (CS2103T), Wireless Networking (CS4222), Operating Systems (CS2106), AI & Machine Learning (CS2109S)
- Distinction in Networks and Distributed Systems Focus Area
- AY24/25 NUS Raffles Hall Executive Committee, Vice Chairperson
- Cumulative GPA: 4.45/5.00

PROJECTS

Automated DevOps Incident Responder
Dec 2025 - Jan 2026

- Architected an autonomous SRE agent using LangGraph, implementing a state-machine workflow that cyclically diagnoses runtime errors, queries documentation (Tavily API), and synthesises fix proposals.
- Engineered deterministic data pipelines by enforcing strict JSON schemas and fallback parsing strategies, eliminating LLM format hallucinations and ensuring reliable downstream execution.
- Developed Human-in-the-Loop checks and file system allow-listing (blocking .env/credential access) to prevent unauthorised command injection.
- Implemented a comprehensive Test-Driven Development (TDD) strategy using Pytest and Mocks, isolating LLM logic for zero-cost CI/CD verification of routing and safety protocols.

EcoTrack, Team Co-lead, NUS LifeHack 2025 Winner
Jun 2025

- Built an AI-driven "Wikipedia of product lifecycles" integrating a Chrome extension, interactive dashboard, and Telegram bot to generate community-verified sustainability scores and lifecycle summaries within a 48-hour timeframe.
- Engineered backend pipeline with OpenAI embeddings, Postgres (vector storage), and a custom tree-based algorithm to scale lifecycle summarisation, maintain performance with sub-500ms latency, and handle 1000+ events per product.

TsFraudPmo, Team Co-lead, DSTA BrainHack CODE_EXP Finalist
May - Jun 2025

- Full-stack development of a real-time scam detection platform, integrating a React Native mobile app and Telegram bot to enable instant user reporting and rapid dissemination of verified scam intelligence.
- Implemented custom LLM pipelines, utilising prompt engineering, semantic embedding, and real-time input processing, transforming raw user reports into over 100 validated insights and concise summaries.
- Collaborated closely as a 3-person team alongside a mentor to deliver a production-ready system under competition constraints, demonstrating strong product focus and cross-functional coordination.

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL, TypeScript, HTML, CSS
Frameworks & Libraries: React, LangChain, LangGraph, FastAPI, OpenAI & Gemini API
Developer Tools: GitHub, Gradle, CodeCov, Supabase, Tavily
Cloud & Platforms: Azure, Microsoft Power Platform, Google Cloud Vertex AI, Workato