

Shawn Lee Shi Jie

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Education

Georgia Institute of Technology | USA

Aug 2024 – Present

Online Master of Science in Computer Science (OMSCS)

Coursework: Artificial Intelligence, Machine Learning for Trading, AI Ethics, Game AI, Computer Networks

National University of Singapore (NUS) | Singapore

Aug 2018 – Jun 2022

Bachelor of Computing (Honours) in Computer Science | NUS Merit Scholarship

Work Experience

Senior Software Engineer | Visa

Jan 2025 – Present

- Appointed as 1 of 2 GenAI practitioners for clearing and settlement teams (~60 engineers & directors) in Singapore, where I conduct semimonthly workshops on LLM tooling and agentic AI workflows to drive AI adoption across the organization
- Designed reentrant C++ components for the fee and interchange calculation module which powers inter-bank fee settlement and Visa's revenue computation within VisaNet (Visa's global payments network). Optimized performance hotspots, achieving an average transaction processing time of 500 microseconds in production, far exceeding the initial target of 3 milliseconds
- Architected and implemented an internal LLM-powered pull request review agent integrating GPT-5.4 and Claude Opus 4.7 with context assembly, Jira requirement extraction, and automated static analysis. Has processed 600K+ LOC across 3 teams.
- Designed and built an AI agentic system comprising a tool-calling LLM backend and Angular chat interface, enabling natural language invocation for QA teams to test Visa's transaction clearing API in production

Software Engineer | Visa

Jun 2022 – Dec 2024

- Developed C++ components and Python scripts for Edit Package 5, a product that helps Visa's clients (Acquiring and Issuing Banks) to validate their transactions before transmission to VisaNet for processing (>20m USD in annual revenue)

Software Engineer Intern | Visa

May 2021 – Aug 2021

- Developed UI components and REST APIs using Angular, Spring Boot and MSSQL for the Visa Automated Test Portal, a tool used by banks to verify the accuracy and speed of transactions within VisaNet which generates millions of dollars in revenue annually

Projects

Visa Aegis – AI-Driven Incident Intelligence Platform | Python, LangGraph, RAG, ChromaDB

Apr 2026 – May 2026

- Designed and built a multi-agent system that automates production incident triage, root-cause analysis and severity assessment, targeting the highest-friction phase of incident response (understanding, not fixing) to reduce MTTR for on-call engineers
- Architected an 8-agent LangGraph pipeline with parallel fan-out context retrieval, cross-model self-critique loop (Claude Opus analyst, GPT critic) and conditional human-in-the-loop gating that escalates only high severity incidents for human review
- Built a ChromaDB-backed RAG layer over runbooks and historical incidents, integrating a ReAct-style Advisor agent with tool-calling capabilities for post-analysis Q&A. Delivered Streamlit observability dashboard surfacing each agent's reasoning chain.

Random Forest Stock Trader | GATech CS7646 Machine Learning for Trading [\[Source Code\]](#) [\[Project Report\]](#)

Oct 2024 – Nov 2024

- Developed a Random Forest stock trading model built using Bollinger Bands, Relative Strength Index (RSI) and Stochastic Oscillator. Outperformed the benchmark buy-and-hold strategy by 150% in-sample and 40% out-of-sample. Received an A grade.
- Employed bootstrap aggregation (bagging) with 20 random decision trees to generate trading signals

StalkFish | NUS CS3219 Software Engineering Principles & Patterns [\[Technical Report\]](#) [\[Demo Slides\]](#)

Aug 2021 – Nov 2021

- Developed a full-stack microservices web application for Snow Treasures Singapore (SME 500 company) to monitor prices of competitors' e-commerce products via web scraping, incorporating data visualization and machine learning for price modelling
- Tech stack: React, AWS, Nginx, Kubernetes, MongoDB, PostgreSQL, Hasura GraphQL, Python, Telegram Bot API

Leadership

Vice-Captain of Varsity Water Polo Team | National University of Singapore (NUS)

Jun 2019 – May 2020

- Accomplishments: led team to 1st place in SUNIG 2019 (Singapore University Games), NUS Open Water Polo League 2019

Officer of Singapore Armed Forces | Basic Military Training Centre (BMTC)

Dec 2016 – Dec 2017

- Awarded BMTC Commander Coin in recognition of exceptional performance as a platoon commander

Skills

Programming: C++, Python, Go, Java, SQL

Technologies: Claude Code, Codex, Copilot, Linux, Docker, Git, Flask, CI/CD (Jenkins), LangGraph