Shawn Lee Shi Jie

Singapore • shawnlsj97@gmail.com • +65 8126 7220

LinkedIn: linkedin.com/in/shawnlsj97
Personal Website: shawnlsj97.github.io

Education

Georgia Institute of Technology | USA *Aug 2024 – Present*
Online Master of Science in Computer Science (OMSCS)
Coursework: Machine Learning for Trading

National University of Singapore (NUS) | Singapore *Aug 2018 – Jun 2022*
Bachelor of Computing (Honours) in Computer Science | NUS Merit Scholarship

Work Experience

Software Engineer | Visa *Jun 2022 – Present*
- Developed business critical systems in C++ and Python as part of the Payment Products Development team, supporting Visa's clearing and settlement of transactions for people and businesses globally
- Developed and optimized reentrant C++ components for the fee and interchange calculation module within VisaNet (Visa's global payments network). Identified and optimized performance hotspots, achieving an average transaction processing time of 500 microseconds in production and 200 microseconds in local testing, far exceeding the initial target of 3 milliseconds
- Developed performant APIs using sockets, Boost and Go that support multithreading/multiple goroutines, improving throughput by 400% from 5000 to 25000 transactions per second
- 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

Service Reliability Engineer Intern | DBS *Jun 2020 – Aug 2022*
- Developed a dashboard and RESTful APIs using React, Node.js and MongoDB for performance monitoring of critical collaborative work services (OneDrive, SharePoint etc) used in the company

Projects

Random Forest Stock Trader | GATech CS7646: Machine Learning for Trading *Oct 2024 – Nov 2024*
[Source Code] [Project Report]
- 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 *Aug 2021 – Nov 2021*
[Technical Report] [Demo Slides]
- 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

Athletick | NUS CS2103T Software Engineering *Sep 2019 – Nov 2019*
[Source Code] [Project Portfolio] [Pitch & Project Demo Slides]
- Developed a JavaFX team management desktop application for coaches and team captains of timing-based performance sports using Java, incorporating TestFX, Gradle and Travis. Received an A grade.

Leadership Experience & Extra-Curricular Activities

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 and NYSI IHL (National Youth Sports Institute for Institutes of Higher Learning) 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 & Interests

Programming:	C++, Python, Go, Java, SQL
Technologies:	Linux, Docker, Git, SourceTree, CI/CD (Jenkins), Postman, Boost, Flask, Spring Boot, MongoDB, PostgreSQL
Interests:	Hiking, Running, Swimming, Gymming, Watching Football