Zhenlin Wang

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EDUCATION

Carnegie Mellon University (CMU)   **Pittsburgh, PA**
Master of Science in Machine Learning   **Dec 2023 (Expected)**

National University of Singapore (NUS)   **Singapore**
Bachelor of Science in Applied Mathematics (1st Class), Double Major in Computer Science | **GPA:** 4.75/5.0   **Jun 2022**
Coursework: Data Structure & Algorithms; Design & Analysis of Algorithms; Database Systems; Computer Organizations; Operating Systems; Software Engineering; Machine Learning and Artificial Intelligence; Deep Reinforcement Learning.

SKILLS

Programming Languages: Python; C++; C; JavaScript; SQL; NoSQL; Java; YAML; Git; CSS; HTML; Shell script.
Technical Knowledge: Linux System; Distributed System; Database design; Object-Oriented Programming; Full-stack Web Development; Unit Testing; CI/CD; Microservices; Message Queue; AWS Cloud; Spring Boot/Spring Cloud; Caching.

PROFESSIONAL EXPERIENCE

Emporio Analytics (Eyos)   **Singapore**
Data Science Intern   **May 2020 – Aug 2020**
- Designed and deployed a price-quantity estimation model on **AWS Cloud** for grocery stores sales report, achieving 3 times better pipeline efficiency and improved prediction accuracy by 14.5% on real-world transaction data.
- Parallelized a price validation and anomaly detection process through **Python asyncio** and **multiprocessing** pakcages.
- Developed models with **Sklearn** and **Scipy** frameworks to identify 3 major errors in anomaly with 2.39% false positive rate.
- Composed a systematic documentation template on **Atlassian Confluence** which was adopted by the team for future usage.

PROJECT EXPERIENCE

FeedCMU | CMU   **Sep –Sep 2022**
- Designed a free food finder web app integrated with **Google Map API**s' routes and map features at a hackathon (HackCMU).

Smartphone-Mall | NUS   **May – Aug 2022**
- Implemented a shopping web app's backend with microservices architecture via **Spring Boot, Spring Cloud and Docker**.
- Accelerated data retrieval and synchronization in app's distributed system with **Redis, Elasticsearch** and Spring Session.
- Overcame concurrency problems during heavy network traffics via **Redisson locks, Java Thread Pools** and maintained transaction reliability and consistency using **RabbitMQ** message queue cluster.

Code Analyzer | NUS   **Jan – May 2022**
- Collaborated with a team of 5 to build a cross-platform code analyzer using **C++** and **CMake**.
- Designed and developed a program knowledge base with a Producer-Consumer pattern for the analyzer with an indexing feature for fast lexical token querying, whose speed was among top 5% of all teams' solutions.
- Created APIs to generate control-flow graphs parsed from source programs and store graphs into knowledge base.

CLI-nic | NUS | Project Team Lead   **Aug – Nov 2020**
- Led the development of a GUI-based medical supply monitor app in **Java** with **Agile, Test-Driven Development** practices.
- Implemented deletion and search logic in the app with **Object-Oriented Designs** and enhanced GUI's visual using **JavaFX**.
- Automated unit/integration testing in Continuous Integration/Deployment via **JUnit Test** and **Travis CI**.

MyPal | NUS | Project Team Lead   **May – Aug 2019**
- Developed a relationship management website for students with registration, scheduling, and relationship rankings features.
- Built the user interface of the app using **React, Node.js**, applied **D3.js** for data visualization.
- Implemented backend system with **Express** and Node.js, integrated cloud-hosted databases from **MongoDB Atlas** and designed **RESTful APIs**. Connected front-end with back-end via HTTP requests handled by Axios.

HONORS

Dean's List, NUS Faculty of Science   **Fall 2020, Fall 2021**
Orbital Software Development Apollo 11 (Advanced) Level, NUS School of Computing   **Mar 2020**