Tyler Kwok

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Education

Georgia Institute of Technology December 2024
Bachelor's of Science in Computer Science *GPA: 4.00/4.00*
Teaching: Machine Learning (CS 4641)

Experience

Wealthfront May 2024 – Present
Software Engineering Intern *Palo Alto, CA*

- Automate pipeline using Java, S3, and Avro to update custom ETF overlay dictating allocation of **$9 billion**
- Develop internal service handling test user transaction at mock endpoints saving **1 hour** of on-call pages weekly
- Implemented fix for client email notifications ensuring correct content for all transactions with canceled orders

Amazon May 2023 – August 2023
Software Engineering Intern *Seattle, WA*

- Architected data pipelines in Java to improve the data capacity of every Amazon Fresh fulfillment center by **25%**
- Built AWS Lambda-based proxies to implement dataset caching in S3, allowing for instant product status retrieval
- Engineered alarms for stale datasets to ensure up-to-date order calculations for **18%** of total fulfilment center data
- Coded system with Spring Boot backend, S3/DynamoDB for storage, and Google Guice for dependency injection

NASA Kennedy Space Center August 2022 – December 2022
Software Engineering Intern *Cape Canaveral, FL*

- Developed command and control launch systems for Artemis moon lander program on Data Service team
- Improved data reliability by fixing errors in launch control data service to increase decimal precision by **114%**
- Created full C++ test suite with FakeIt mock unit tests, enabling the restructuring of launch control codebase

Georgia Tech Research Institute May 2022 – August 2022
Software Engineering Intern *Atlanta, GA*

- Pioneered A10 aircraft data labeling tool in Python with capacity of **400 images/minute** to detect emergencies
- Optimized data generation system reducing memory usage by **87.5%** while maintaining fidelity of synthetic data
- Utilized Docker, Pachyderm, and Kubernetes to create an active learning pipeline to detect aircraft damage
- Restructured pipeline using Kubeflow as a cost-free alternative to Pachyderm saving **$5,000** per license

Contextual Computing Group November 2021 - Present
Undergraduate Researcher *Atlanta, GA*

- Lead developer for a C++ application emulating augmented reality captioning used for **3 separate** user studies
- Spearheaded open-source emulated captioning on head-worn display Virtual Reality research platform with Unity
- Led investigation on the optimal field of view for daily captioning on HWD accepted for conference **publication**

Projects

PopSign AI | *Python, PyQt, Docker, Firebase*

- Founder of distributed system annotation engine for ASL recognition model which was featured at **Google IO**
- Curated process for annotating ASL database which was open-sourced as a Kaggle competition with **1165 teams**

MarketMatch | *React, FastAPI, Next.js, MongoDB, AWS*

- Launched app that **gamifies portfolio building** for beginners by providing stocks based on adaptive swiping
- Handled matching with nearest neighbors, reduced latency by **80%** with MongoDB caching, deployed using AWS

Symmetry | *Python, FastAPI, React, MySQL*

- Deployed group productivity dashboard using ChatGPT and LLAMA2 increasing student productivity by **12%**
- Leveraged Python FastAPI to develop REST APIs, Pinecone DB for chatbot integration, and React for front-end

Skills

Languages: Java, Python, Kotlin, C, C++, C#, R, SQL
Technologies: Spring Boot, Mockito, React, OpenGL, Docker, AWS (S3, CloudWatch, Lambda, EC2), Postman, TensorFlow, Unity, Linux, Flask, FastAPI, MongoDB
Concepts: Machine Learning, Computer Vision, Scalable Containerization, Cloud Computing, Human Computer Interaction, Virtual/Augmented Reality, Data Pipelining, MLOps, Computer Simulations