Thomas Kou

2B Software Engineering at University of Waterloo

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SKILLS

Languages	Python, JavaScript, Java, C++, C, HTML, CSS, SQL
Tools	Node.js, React, Redux, Sass, Express.js, React Native, Git, Adobe Creative Cloud

EXPERIENCE

Wish   Software Engineer Intern, Payments • San Francisco, USA   Jan. 2020 – Apr. 2020

- Expanded pay-in-installments feature to the UK, leading to a projected **$6.3 million increase** in annual GMV and increasing net transactional profit by **6.4%**.
- Spearheaded development of **Python backend** APIs that use **PayPal** and **Braintree** to collect outstanding cash payments from partnered Wish Blue satellite stores.
- Added worldwide support for shipping address verification, reducing online order cancellations by **16.7%**.
- Built an automated **daily pipeline** that recovers gift card failures by tracing relevant **MongoDB** documents to determine where the card-claiming procedure failed.

Prizm Media Inc.   Junior Web Developer • Vancouver, Canada   Apr. 2019 – Aug. 2019

- Revamped legacy web pages by creating responsive, scalable components using **React**, **Redux**, and **Sass**, resulting in an approximately **200% increase** in load speed.
- Created functionality for users to find/save discount cards using MongoDB and **REST API** endpoints.
- Refactored obsolete PHP-based backend to a **Node.js monorepo** that adopts an adapter design pattern, allowing for efficient reuse of modular API wrappers.
- Set up an automated cross-browser continuous integration testing suite for user flows using **LambdaTest**, **Nightwatch**, and **CircleCI**, saving over 15 man hours per week.

PROJECTS

React-Snake   Aug. 2019

- Created a web-based Snake game in **TypeScript**, **React**, and **Sass**, with game data stored in a local **Redux** store.
- Saved and fetched high scores to/from a **Firebase** server, allowing scores to be submitted and displayed to all other players.
- Deployed the **Node.js**-based app to an **AWS Amplify** server.

LED Matrix Audio Visualizer   Nov. 2018

- Developed a **Python** program to visualize microphone or music data live on an LED matrix using a **Raspberry Pi**.
- Serialized audio information in real time using Fourier analysis, allowing for parsing of different audio frequencies.
- Used a cloud-based **MQTT** messaging protocol to send decoded audio information to the Raspberry Pi.
- Implemented **multithreading** to simultaneously analyze and transmit data, fixing audio stuttering and latency issues.

Markov Chain Sentence Predictor   Nov. 2018

- Built a **Java** program that uses **Markov chains** to predictively generate sentences modeled after user input.

EDUCATION

University of Waterloo • Candidate for Bachelor of Software Engineering (BSE)   2018 – 2023 (expected)

- Math & Engineering Dean's Honours Lists – GPA 3.96/4 (90.7%)