Lily Tao

2B SYSTEMS DESIGN ENGINEERING

CONTACT

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SKILLS

Languages

- C++
- Golang
- Java
- JavaScript
- HTML/CSS
- MATLAB
- SQL

Technologies

- Firebase
- MongoDB/Mongoose
- ReactJS/Redux
- React Native
- NodeJS
- ExpressJS
- Git
- Docker
- Kubernetes/K9s
- Google Could Platform
- Spring Boot
- Terraform
- Grafana

EDUCATION

University of Waterloo

BASc. Systems Design Engineering (2019-2024)

- CGPA: 3.8
- Data Structs. & Algorithms (C++)
- Digital Computation (C++)
- Digital Systems (microprocessors, circuits)
- Engineering Prototyping

INTERESTS

Art (Oil, Acrylic, Portraits, Calligraphy)
Film Photography

EXPERIENCE

Backend Developer
Ecobee (May. 2021 - Aug. 2021)

- Implemented a device agnostic **gRPC Golang** microservice to read from Google Spanner database that ensures a **98%+ match rate** with legacy database and less than 300ms of latency, deployed to **2.7 Million** Ecobee devices
- Designed and implemented an ingestor service to persist device data from PubSub to Google Spanner using Golang, **OpenAPI**, and deployed on **GCP Cloudrun**
- **Authored** and presented an RFC document communicating the technical specifications of migrating thermostat data models to a team of **15 engineers**
- Owned the migration of thermostat data models from **xml** to **protobuf**, reducing bandwidth usage by **50%** during publishing
- Guaranteed code maintability and robustness by achieving **100% test coverage** in unit and integration tests

Software Developer/Product Manager
Year Zero Studios (Sept. 2020 - Dec. 2020) 🔗

Mental Health Score 🔗

- Used **ReactJS**, **Firebase**, **Express**, and **Vercel** as a lead developer to design, develop, and deploy a mental health scoring assessment from scratch
- Led **product development** and UIUX design by facilitating weekly design sprints, amassing **1000+ unique users** since Nov. 2020 public release

Wellify 🔗

- Connected ReactJS frontend to Firebase backend using **Firebase API**, allowing Wellify instructors to create new classes, edit existing classes, and access student information

Developer
TD Bank (Jan. 2020 - Apr. 2020)

- Modernized legacy code in **Java** for financial reporting applications to audit internal software access
- **Automated** file transfer processes from external databases by creating scripts, reducing processing times by **70%**
- Wrote **Talend ETL** jobs to load and extract financial data from **Hadoop** datastore

PROJECTS

DiscoBee

ReactJS, Socket.io, MQTT, Android SDK, NodeJS (2021)

- Prototyped an IoT disco light that reacts to sound waves and integrates with emulated Ecobee products.

My Film Journal 🔗

ReactJS, MongoDB, Express, NodeJS (2020-2021)

- **Full stack** application that allows film photographers to keep track of their photography settings sorted by film roll instead of using a physical journal

Trash Sorter 🔗

ReactJS, Azure Custom Vision, HTML (Hack the North 2021)

- **Trained** and deployed a **computer vision model** and implemented Microsoft's **Prediction API** to classify images of waste uploaded by users

Herolines 🔗

ReactJS, Firebase, Node (uOttaHack 2021)

- Application that allows healthcare workers to search for deals and benefits based on location and category using **Google Map API** and **Google Place API**