KAI SAWAMOTO | 2023-April grad

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SKILLS

Languages: C/C++, Type/JavaScript, Python, Go, Java, Bash, SQL, HTML, CSS, Dart, Swift

Technologies: Git, Docker, Kubernetes, Node, React, Flask, Django, GraphQL, gRPC, Firebase, Linux, Numpy, PyTorch etc.

Miscellaneous: Microservices/Domain-driven architecture, Test-driven/Object-oriented programming, Agile, Black/white box unit test, REST, UML/ER Diagram, Figma, Serverless, Design Patterns, SOLID principles, LaTex

WORK EXPERIENCE

Associate Software Engineer Co-op | SkyBox Labs, 4 months – Burnaby, Canada (Aug. 30, 2021 - present)

- Fixed UI-related bugs, while using my knowledge of data structures such as recursion on a Folders UI tree.
- Developing the Forge mode in Halo, which is written in **C++** and **Lua**.

Teaching Assistant | UBC Department of Computer Science, 4 months – Vancouver, Canada (Sep. 1, 2021 – present)

- Assisting CPSC320; Intermediate algorithm design and analysis, by teaching a lab section, taking office hours, and grading assignments and exams.

Full-stack Web Developer | Ramen Hero, Part-time – San Francisco, USA (Nov. 1, 2021 – present)

- Developing and maintaining the website that is built with **Go** and **React**
- Writing unit tests for the backend to enhance its robustness

Research Assistant Co-op | UBC Electrical & Computer Eng. (ECE) Lab, 8 months – Vancouver, Canada (Jan. 3, 2021 – Aug. 20, 2021)

- Assisted research on the 5G network for an ECE lab and Rogers Communications under direction by Dr Vincent Wong.
- Built a full-stack web app (**React, Django**) to visualize scientific data and its stats, using Google Maps API. This allowed Rogers to view the distribution of mobile internet usage easily, and strategize where to reinforce signals.
- Deployed the app securely by introducing JWT auth and configuring SSL cert on a Linux server using Apache2
- Built deep learning models, such as auto encoder, to compress data by 90% with little noise, using **PyTorch**
- Created an AR crowdsensing software (an iOS client in **Swift** and **Node.js** back end), which collects crowd information from end-users. This information will allow for retaining the hygiene of the city and optimizing food vendors' operation location and time.

DevOps Intern | ExaWizards, 4 months – Tokyo, Japan (Sep. 1st 2020 – Dec. 24th 2020)

- Worked in an international team with 9 other members and learned many DevOps tools as well as soft skills
- Developed Node.js apps that audits events on GitLab and GitHub and sends notifications, which improved the transparency
- Performed operational tasks such as updating SSL cert, adding user permissions, config of infrastructure etc.
- Wrote Terraform for the company's cloud infra and operational tools
- Configured AWS Systems Manager and managed company's infra, including virtual instances and on-premises machines, by enabling batch installation, Run Commands, and remote monitoring from a single admin machine

Software Engineer Intern | Eaglys, 4 months – Tokyo, Japan (May. 1st 2020 – Aug. 29th 2020)

- Worked on a machine learning library that allows for prediction with encrypted data.
- Implemented a wrapper of a C++ encryption library, which was then used in the main product.
- Developed multi-party computation between several servers, using **gRPC**, which allowed for separating confidential and non-confidential computation.

PERSONAL PROJECTS | github.com/sawamotokai

Typebits | Typing Game for Programmers – **React / TypeScript, Firebase** *(Mar. 2021)*

- Typing game where "words" are programming snippets, which users can create
- Designed user-friendly UI/UX; typed words are displayed green if correct and red if wrong
- Used by 50+ competitive programmers before contests and enhanced their performances

Vault | CLI Password Manager – **Node.js** *(Nov. 2020)*

- Randomly generates arbitrarily long secure passwords and store them encrypted
- Uses two-factor authentication for better security
- Beautiful UI using inquirer.js

EDUCATION

The University of British Columbia – *BSc in Computer Science, 4th year* | *Co-op* GPA 91.8%. Vancouver, BC, Apr. (2023 Grad)