Alan Ma

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Skills

Languages

Python; JavaScript; C

Tools

Angular; Firebase; Git; Jira; AWS; Unity; Node.js; Vue.js; scikit-learn; Arduino; Hyper-V; TypeScript; Sass; MATLAB

Education

University of Waterloo *2018–2023*

Software Engineering

- Cumulative Average: 90.3%
- Received President's Scholarship of Distinction for admissions average over 95%

Experience

SOTI Inc. – *Development Operations Intern* *Summer, 2018*

- Identified potential improvements to cross-platform compatibility
  - Tested the feasibility of upgrading build machines from PowerShell 5 to PowerShell Core
  - Configured virtual machines in ***Hyper-V*** as local agents, running production pipelines for continuous delivery
- Built a new process to code sign Windows Mobile applications as an alternative to a $30,000 third-party API deal

SOTI Inc. – *Research and Development Intern* *Summer, 2017*

- Built new UI components to allow clients to customize device details
  - Developed components for an Angular web application using ***TypeScript***, ***HTML***, ***CSS***, and ***Sass***
  - Fixed UI issues affecting cross-browser compatibility, working closely with QA
- Facilitated consistency across products by creating a style and design guideline

Prolexion *(Grammar checking software startup) – Product Development Intern* *Summer, 2016*

- Presented a competitive analysis on technical functionality and user experience to the founders
- Increased team efficiency by creating a web application to automate the analysis of tests

Projects

DECA Online Member Hub – *Web app for club members to practice multiple choice questions*

- Parsed exams using ***Python*** scripts, adding over 90,000 questions to a NoSQL database
- Implemented user login with emails via ***Firebase***, allowing for progress tracking
- Provided access for over 150 active users by hosting the website on a web server (***Nginx*** on ***Ubuntu*** – ***AWS***)

Dash no Jutsu – *Players run on the spot to race their virtual character simulations*

- Interfaced data from accelerometers using ***Arduino*** and the I2C protocol for serial communication
- Translated running speeds from the real world to virtual characters in ***Unity*** using ***C#***
- Integrated code with other developers, implementing a speed controller for character models

Reddit News and Stocks – *Trend correlation analysis of news posts on Reddit and stock indices*

- Parsed over three years of historical data using ***Python***, archiving data locally
- Preprocessed and analyzed data using a linear regression model with the ***scikit-learn*** library
- Created visualization tools using ***Vue.js***, dynamically retrieving archived files

IEP Comment Processing – *Tool created for school administration to generate customized student reports*

- Saved over 100 hours of time for administration by automating processes using ***Python***
- Built a secure and robust application with editable templates to allow for future customization