Alan Ma

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Skills

Proficient: Python, JavaScript, C, Angular, Vue.js
Familiar: Java, C++, C#, Arduino, TypeScript, Node.js, Sass
Tools: Firebase, Git, Jira, AWS, Unity, scikit-learn, MATLAB

Awards

Hack the North: HERE.com API Award — *Sept. 2018*
University of Waterloo: President's Scholarship — *Jun. 2018*
Hack the North: PagerDuty API Award — *Sept. 2017*

Experience

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

- Identified improvements to cross-platform compatibility by upgrading build machines to PowerShell Core
  - Configured virtual machines in Hyper-V as local agents, running production pipelines for continuous delivery
- Built a new process to digitally sign Windows Mobile executables as an alternative to a $30,000 third-party API

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

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

Product Development Intern – Prolexion — *Summer, 2016*

- Presented a competitive analysis to the founders, covering multiple grammar checking software on the market
- Increased team efficiency by creating a web application using ***JavaScript*** to automate test case analysis

Projects

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

- Parsed exams using ***Python*** scripts, adding over 90,000 practice exam 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 by 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 data with sentiment analysis, analyzing with a linear regression model using 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 working hours for administration by automating conversion processes using ***Python***
- Built a secure and robust application with editable templates to allow for future customization

Education

University of Waterloo – Software Engineering, BSE — *2018–2023*

- Cumulative Average: 90.3%