


Alan Ma

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Education

University of Waterloo

2018–2023

Software Engineering

- Cumulative Average: 90

Experience

Development Operations Intern

Summer, 2018

at SOTI Inc.

- Conducted a feasibility study in upgrading build machines from PowerShell 5 to PowerShell Core
- Deployed pipelines in GoCD to run proof-of-concept scripts using continuous delivery principles
- Configured virtual machines in Hyper-V to act as local agents, integrating proof-of-concept scripts into production pipelines
- Prototyped a new process to code sign Windows Mobile applications to replace end-of-life APIs

Research and Development Intern

Summer, 2017

at SOTI Inc.

- Built new front-end components for an Angular web application and wrote corresponding unit tests using *TypeScript, HTML, CSS, and Sass*
- Facilitated consistency across products by creating a style and design guideline
- Iterated over future design choices through meetings with the UX team and product managers
- Reported on task progress through scrum meetings and *Jira*, communicating effectively with a team of 20
- Fixed UI issues affecting cross-browser compatibility, working closely with QA
- Used *Git* to create feature branches for local development and stay up to date with other developers

Product Development Intern

Summer, 2016

at Prolexion (Grammar checking software startup)

- Determined the market situation by conducting a competitive analysis, covering technical functionality and user experience
- Increased team efficiency by creating a web application to automate the analysis of tests

Skills

Languages

JavaScript – *Work Experience*

Python – *Personal Projects*

C – *Course Experience*

Tools

Angular; Node.js; Git; Jira; AWS; Unity Engine

Projects

DECA Online Member Hub

A web application built for business club members to practice multiple choice exams and prepare for competition

- Parsed exams using custom *Python* scripts to automate adding exams to the questions bank (Over 90000 questions and answers with explanations)
- Implemented user login with emails via *Firebase*, allowing for progress tracking and the ability to view previous attempts
- Provided access for over 150 active users by hosting the website on a web server (*Nginx* on *Ubuntu* – *AWS*)

Colour Collision

A board game based around territory management and probability, with a dynamic board using changing LEDs and a digital interface

- Created a *Node.js* web server running on a Raspberry Pi to run the core game loop, as well as control the LED grid using *Python* scripts
- Implemented a server-client communication system using *Socket.IO*, allowing for players to view the game status and pick options affecting the physical board through a GUI

Dash no Jutsu

A running simulator where players move their virtual characters by running on the spot in real life – like a ninja

- Interfaced data from accelerometers using *Arduino* and the *I2C* protocol for transmitting information via serial communication
- Wrote custom data processing scripts in *C#* to translate running speeds from the real world to virtual characters in *Unity*
- Integrated code with other developers, implementing speed control for character models