


# Alan Ma

 (437) 993-5600

 axma@edu.uwaterloo.ca

 <https://alan-ma.ca>

 <https://github.com/alan-ma>

## Skills

### Languages

Python; JavaScript; C; 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