# Alan Ma

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github.com/alan-ma

## Education

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

• Cumulative Average: 90.3% – Dean's Honours List

## Skills

**Proficient:** Python, JavaScript, C, Angular, Vue.js

**Familiar:** Java, C++, C#, Arduino, TypeScript, Node.js

**Tools:** Firebase, Git, Jira, AWS, Unity, scikit-learn, MATLAB

## Awards

Hack the North: HERE.com API Award *2018*

UWaterloo: President's Scholarship of Distinction *2018*

Hack the North: PagerDuty API Award *2017*

## Experience

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

• Wrote **PowerShell** scripts to sign security certificates on executables as an alternative to a $30,000 third-party API
• Refactored tools from PowerShell 5 to PowerShell Core to test the viability and benefits of upgrading build machines
• Configured virtual machines in Hyper-V to run production pipelines and test proof-of-concept processes

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

• Built components for a fleet management **Angular** web application that tracked vehicle activity
• Resolved UI issues affecting cross-browser compatibility using **HTML**, **CSS**, and **Sass** while working closely with QA
• Facilitated consistency across products by creating style and design guidelines

**Product Development Intern** – Prolexion *Summer, 2016*

• Increased team efficiency by creating a web application using **JavaScript** to automate test case analysis
• Conducted market research comparing the flagship product to competitors, presenting results to the founders

## Projects

**DECA Online Member Hub** – *Web application 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
• Hosted the website on a web server (**Nginx** on **Ubuntu** – **AWS**) to provide access for over 150 active users

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

• Translated running speeds from the real world to virtual characters in **Unity** using **C#**
• Interfaced with data from accelerometers using **Arduino** and the I2C protocol for serial communication
• Collaborated with co-developer to integrate speed controllers with character models

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

• Preprocessed data with sentiment analysis, analyzing with a linear regression model using the **scikit-learn** library
• Parsed over three years of information using **Python**, indexing files to avoid duplicate data
• Created visualization tools using **Vue.js** and **Chart.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 modifiable templates to allow for future customization