

ALEXANDER SHIH

Boston, MA ◇ (978) 902-6069

alexanderchshih@gmail.com ◇ <https://github.com/ashih2018> ◇ alexandershih.com

EDUCATION

University of Toronto

B.S., Major in Computer Science, Minors in Statistics and Economics

Toronto, ON

September 2018 - May 2022

- **GPA:** 3.98/4.0

SKILLS & INTERESTS

Languages	Java, Python, C, JavaScript, Ruby, HTML, CSS, Sass, R, Verilog, Solidity
Libraries/Frameworks	Ruby on Rails, React, Django, Vue.js, OpenGL, Flask
Other	Git, Android, Google Analytics, Google Tag Manager, Figma, MongoDB

WORK EXPERIENCE

WatchGuard Technologies

Software Engineering Intern

Lynnfield, MA

May 2020 - August 2020

- Backend development on DNSWatch, a **Django** application that protects clients from malicious DNS connections
- Designed and implemented functionality to block “DNS over HTTPS” by writing **Python** and **Lua** scripts to block outgoing DNS requests sent to “DNS over HTTPS” providers
- Created “Domain Analysis Comments” **Django** model, templates, and views to allow DNSWatch analysts to comment on customers’ alerts

University of Toronto, Department of Computer Science

Open Source Software Developer - <https://github.com/MarkUsProject/Markus>

Toronto, ON

January 2019 - Present

- Worked on MarkUs, a **Ruby on Rails** web application used by the University of Toronto’s Department of Computer Science to grade student assignments, under Professor David Liu
- Internally refactored Markus’s database structure for marking criteria by using Single Table Inheritance to consolidate three criterion database tables into one
- Added new criteria functionality to support arbitrary number of levels by integrating a new Level database model

Mitre Corporation

Software Engineering Intern - Open Health Services Department

Bedford, MA

June 2019 - August 2019

- Frontend development with **React** for Flux Notes, a web application used by clinicians to collect oncology data
- Created an interactive table component to display and show trends in collected patient data
- Added patient navigation and clinician data visualizer features in a tablet scenario of Flux Notes

Software Engineering Intern - C2AOS Department

June 2018 - August 2018

- Developed the user interface and frontend logic for a mapping system web application using **Javascript** and **Vue.js**

PROJECTS

3D Rubik’s Cube Simulation

- Utilized rotation matrices with **NumPy** to transform coordinates in 3D space to turn each face of the Rubik’s Cube
- Used the **Pygame** and **OpenGL** libraries to render and display 3D graphics and animation of turning the cube

Give Your Two Cents

Hack the Northeast 2020 - Winner of Most Viable Startup Hack

- Developed a Google Chrome Extension that integrates charitable donations in a user’s daily shopping habits
- I created the extension’s layout and developed interactive web-scraping abilities with **HTML**, **CSS** and **Javascript**

Fitcoin

- Encourages healthy walking habits by allowing users to bet Ether against others in a friendly competition setting
- Utilized **Blockchain** technology by writing smart contracts in **Solidity** to handle Ether transactions
- Created user interface in **Javascript** and connected smart contracts to frontend with the **web3.js** API

MISCELLANEOUS

Awards and Achievements

Hack the Northeast 2020 Most Viable Startup Winner, UofTHacks 2020

RBC’s Most Innovative Solution Winner, Valedictorian of Andover High School

Interests

Volleyball, Speedcubing, Board Games, Hip-Hop Dance, Ultimate Frisbee, Piano