

ALEXANDER SHIH

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EDUCATION

University of Toronto

Toronto, ON

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

September 2018 - May 2022

- **GPA: 3.98/4.0**

SKILLS & INTERESTS

Languages

Java, Python, C, JavaScript, SQL, Go, HTML, CSS, Sass, R

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

Lynnfield, MA

Software Engineer Intern

May 2020 - August 2020

- Full stack development on DNSWatch, a **Django** application protecting **8,000+** clients from malicious DNS connections
- Created a **REST API** for DNSWatchGO Client to evaluate the domain status of a domain and its CNAMEs
- Utilized Django's **MVT** design pattern to create "Domain Analysis Comments" to allow DNSWatch analysts to comment on customers' alerts

University of Toronto, Department of Computer Science

Toronto, ON

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

January 2019 - August 2020

- Backend development on MarkUs, a **Ruby on Rails** web application used by the University of Toronto's Department of Computer Science for the submission and grading of assessments for **2,000+** students each year
- Internally refactored MarkUs's database structure for marking criteria by using Single Table Inheritance to consolidate three criterion database tables into one to simplify database queries
- Added new criteria functionality to support multiple levels by integrating a new Level database model and performing related database migrations

Mitre Corporation

Bedford, MA

Software Engineer Intern - Open Health Services Department

June 2019 - August 2019

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

Software Engineer 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
- 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

Speedcubing, Board Games, Spicy Foods, Hip-Hop Dance, Volleyball, Piano