

# ALEXANDER SHIH

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## EDUCATION

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### 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

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### 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

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### WatchGuard Technologies

*Software Engineer Intern*

Lynnfield, MA

*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

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

Toronto, ON

*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

*Software Engineer Intern - Open Health Services Department*

Bedford, MA

*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

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### 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

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### 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