Alexander Shih

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Education

University of Toronto

Major in Computer Science, Minors in Statistics and Economics — Expected Graduation: May 2022

- **Cumulative GPA: 3.98 / 4.00**
- Relevant Coursework: Programming in Python, Programming in Java, Programming in C, Data Structures and Algorithms, Probability and Statistics, Linear Algebra, Multivariable Calculus

Andover High School — September 2014-April 2018

- Valedictorian of Andover High School Class of 2018 of class size of 419 students

Technical Skills

- Languages: Java, Python, C, JavaScript, Ruby, HTML, CSS, Sass, Verilog, Solidity
- Libraries/Frameworks: Ruby on Rails, React, Django, Vue.js, OpenGL, Flask
- Other Software: Git, Android, Figma, MongoDB, Jira

Experience

WatchGuard Technologies (Lynnfield, MA)

Full Stack Software Engineering Intern — May 2020-Present

- Contributed to backend development for DNSWatch in **Python** and **Django** and wrote unit tests by mocking objects.
- Parsed SMTP information and displayed it in the form of a **Django** template for malware analysis used by clients.

University of Toronto, Department of Computer Science

Open-Source Software Developer — January 2019-Present

- Worked on open-source project MarkUs, a **Ruby on Rails** web application, with Professor David Liu
- Used Single Table Inheritance to create a new database structure for marking criteria by creating new models, generating related migrations, and writing **RSpec** unit tests
- Added new criteria functionality to support arbitrary number of levels by integrating a new Level model into Markus

Mitre Corporation (Bedford, MA)

Software Engineering Intern (Open Health Services Department) — June 2019-August 2019

- Frontend development on an agile scrum team for Flux Notes, a web application used by clinicians to collect cancer data
- Used **React** to create an interactive table component used to display data collected from patients
- Used **React** to implement features in a tablet scenario of Flux Notes to explore low burden methods of capturing data

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

University of Toronto Course Finder

- Optimizes University of Toronto's course searcher by allowing users to search for courses based on user specifications
- Used the libraries **JSoup** for web crawling and scraping capabilities and **JavaFX** for creating a graphical user interface

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 of program in **Javascript** and connected smart contracts to frontend with the API **web3.js**

Miscellaneous

- Organizations: Department of Computer Science Ambassador; Elected captain of Intramural Volleyball Team; Member of Urban Dance Revolution
- Interests: Volleyball, Speedcubing, Board Games, Hip-Hop Dance, Poker, Ultimate Frisbee, Biking, Piano
- Dual citizen of United States of America and Canada