Alexander Shih

Toronto, ON | (978)-902-6069 | alexanderchshih@gmail.com | https:/github.com/ashih2018

Education

University of Toronto
Major in Computer Science, Minor 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

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Technical Skills

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

Experience

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**, refactoring existing **models**, and generating related **migrations**
- Wrote RSpec tests for the purpose of standardizing, documenting, and testing newly implemented functionality

Mitre Corporation
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 back end 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

RBC's NiMO Mobile Application
- 3rd place for RBC's innovative digital banking challenge at UofT Hacks
- I applied user-centric design thinking to create a beautiful and intuitive mobile application mockup with **Figma**
- Created database with **MongoDB** to store company profiles and used **Spring** to host a web service for RBC's partners

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, Hip-Hop Dance, Poker, Ultimate Frisbee, Board and Card Games, Biking, Piano