

Tamim Rahman

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Education

Computer Engineering (B. Eng)

Sep 2019 - May 2023

Specialization in Software Engineering

Ryerson University

GPA: 3.8 / 4.0

Work Experience

Software Developer Intern Toronto, ON

Sep 2020 - Present

Cybersecurity Research Lab (CRL)

- Developed a prototype web application using the MVC framework **Sails.js** with **Vue.js** and **Bootstrap 4** to show investors the potential of the CRL blockchain network in preventing fraud in the real estate industry and beyond.

Research Assistant - Cryptography Toronto, ON

May 2020 - Aug 2020

Ryerson University - Department of Computer Science

- Created an implementation of SIKE (post-quantum cryptography) for AVR microcontrollers using **Rust** and the relevant concepts of abstract algebra to decrease the time needed for cryptographic key-exchanges.
- Developed a **Rust multi-precision arithmetic library** which allowed developers to store, perform basic arithmetic, and modular reduction on 400+ bit numbers on 8-bit architecture with significantly lower overhead.
- Built **Python** scripts to verify the functionality of the multi-precision library against 100,000+ tests cases.

Technical Projects

Android - Pokédex

[Github](#) | [Demo](#) | Aug 2020

Applied aspects of android development using **Java** to create an android app that allows users to search up the type, id, description etc. of the corresponding pokémon. The app has support for all generations and variations of pokémon.

Google Search Front End

[Github](#) | [Demo](#) | Aug 2020

Utilized features of **SASS** alongside **HTML/CSS** to create a front end User interface for Google search. This project allows users to make basic, image, and advanced searches via URL GET requests to Google.com.

Computer Vision aided Contactless Delivery

[Github](#) | [Demo](#) | May 2020

Developed a **Python** application that implements OpenCV and the Google Vision API to detect when a delivery has been made to a household and notifies the user via email, allowing for truly contactless and efficient deliveries.

Extracurricular Activities

Lead Developer (Executive) Toronto, ON

Sep 2020 - Present

Ryerson Electrical/Computer Engineering Student Society

- Developed a custom discord bot using **Python** to authenticate and automate user roles/permissions for 800+ users on the student union's official discord server for online events/enrichment.
- Created a notification system using **Python** to notify students about events/workshops based on their interests.

Controls Developer Toronto, ON

Sep 2019 - Present

Ryerson Rams Robotics (R3)

- Developed a **Python** heat map to visualize radiation data for the Mars rover, resulting in a significant decrease in decision making time for operators in the Canadian International Rover Competition.
- Created an app using **Python** and **SQLite** to simulate incoming radiation data coming from the rover's sensors leading to more robust testing of the controls systems and an expected decrease in AI development and training time.

Skills

Proficient: Python, Java, C, Javascript, Vue.js, Django, Rust, and SQLite.

Competent: C++, Sails.js, Git, HTML/CSS, SASS, MongoDB, and Linux.