

# 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.
- Researched technical research journals/documentation to adapt and modify the established optimizations of SIKE.

## 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 - Aug 2020

*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.