

Tamim Rahman

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Education

Computer Engineering (B. Eng), Toronto, ON

Cumulative GPA: 3.75/4.33

Ryerson University

Sep 2019 - May 2024

Work Experience

Research Assistant - Developer Intern

Sep 2020 - Aug 2021

Ryerson University - Cybersecurity Research Lab (CRL)

Toronto, ON

- Developed a web interface for the rendered display data returned from the blockchain using ReactJS and EpressJS.
- Designed and implemented API endpoints to have controlled access to create, read, update data elements.
- Led the R&D of an intuitive visual editor for blockchain workflows. This involved researching and modifying existing open source javascript libraries to be used in combination with the libraries developed by the team.
- Proposed and spearheaded the addition of DevOps tools to the visual editor project. Implemented CI/CD pipelines using a combination of CircleCI, AWS CodeDeploy, AWS EC2 and AWS Amplify.

Research Assistant - Embedded Cryptography

May 2020 - Aug 2020

Ryerson University - Department of Computer Science

Toronto, ON

- Built an implementation of SIKE (post-quantum cryptography) for AVR microcontrollers using aspects of **C** and **C++** in Rust 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.
- Wrote **Python scripts** to verify the functionality of the multi-precision library against **100,000+** test cases.

Projects

Android - Pokédex Personal

[Github](#)

Applied aspects of Android development using **Java** to create an 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.

Computer Vision aided Contactless Delivery Personal

[GitHub](#)

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

IoT based Contact Tracing IEEE 2021 Hackathon Winner

[GitHub](#)

A platform that leverages NFC technology in smart phones to equip small businesses with covid-19 contact tracing.

Optimized Spell-Checker Personal

[GitHub](#)

Applied theory Hash Tables to make an application using **C** to allow users to check the spelling of any plain text file.

Public Knowledge - Django Web Application Personal

[GitHub](#)

The **Python** web app allows authenticated users to create, update, and delete pages on the wiki on the open forum.

Leadership

Software Developer

Apr 2021 - Present

Helium Aero

Toronto, ON

- Simulated flight controls and drone communications. Used a mixture of **C++** and **Python** for scripting/implementation.

Executive Lead Developer

Sep 2020 - Present

Ryerson Electrical/Computer Engineering Student Society

Toronto, ON

- Developed a custom Discord bot using **Python** to authenticate and automate user roles/permissions for **1400+** users.

Controls Developer

Sep 2019 - Dec 2020

Ryerson Rams Robotics (R3)

Toronto, ON

- Developed a **Python** heat map using Matplotlib and SQLite to visualize radiation data for the rover scouting,