Tamim Rahman

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Education

Computer Engineering (B. Eng), Toronto, ON — **Toronto Metropolitan University**
Cumulative GPA: 3.72/4.33 — Expected May 2024

Work Experience

Validation/Automation Engineering Intern — May 2022 - Present
Advanced Micro Devices (AMD) — Toronto, ON

- Led the development of automation scripts for the virtualization validation team. This involved adding coverage for new test cases and migrating old bash scripts to AMD's new python automation frameworks.
- Leveraged the functionalities of 3 internal automation frameworks to achieve end-to-end automation for virtualization.
- Accomplished full automation of 30+ test cases resulting in an estimated 67% decrease in time required to execute test cases on Data Centre GPUs in a virtualization environment.
- Provided training sessions and documentation to 20+ members of the team to enable them for automated tests.

Research Assistant - Developer Intern — Sep 2020 - Aug 2021
Toronto Metropolitan University - Cybersecurity Research Lab (CRL) — Toronto, ON

- Developed a web interface for the rendered display data returned from the blockchain using ReactJS and ExpressJS.
- Designed and implemented API endpoints with controlled access to create, read, and 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 conjunction with the modules developed by our team.
- Proposed and implemented CI/CD pipelines using a combination of CircleCI, AWS CodeDeploy, AWS EC2 and AWS Amplify to free up 30% of Development time.

Research Assistant - Embedded Cryptography — May 2020 - Aug 2020
Toronto Metropolitan University - Department of Computer Science — Toronto, ON

- Implemented SIKE (post-quantum cryptography) for AVR microcontrollers by migrating **C** and **C++** code to Rust to test Rust's viability in the cryptographic key exchanges and cryptography.
- 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** up to 18 times faster than traditional algorithms.
- Wrote **Python scripts** to verify the functionality of the multi-precision library against **100,000+** operations.

Projects

Android App - Pokédex Personal — **Github**
Applied aspects of Android development using **Java** to create an app that allows users to search 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 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 COVID-19 Contact Tracing IEEE 2021 Hackathon Winner — **GitHub**
A platform that leverages NFC technology in smartphones to equip small businesses with Covid-19 contact tracing.

Optimized Spell-Checker using C 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 - Python Web Application Personal — **Github**
The app runs on Django and allows authenticated users to create, update, and delete pages on the wiki.

Extracurricular

Software Developer Helium Aero — Apr 2021 - Oct 2021
Executive Lead Developer TMU Electrical/Computer Engineering Student Union — Sep 2020 - Aug 2021