[](mailto:zm2zaman@uwaterloo.ca)

**Programming:** Python, C, C++, HTML, CSS, Javascript, Bash, Perl, SystemVerilog, VHDL, ARM Assembly

**Tools & Frameworks:** Linux, Windows, Git, Tensorflow, Keras, scikit-learn, OpenCV, PyQt5, Flask, Django, React, GCP

**TECHNICAL SKILLS**

ZAHIN M. ZAMAN

[](https://codeprentice.org/)[](https://www.windriver.com/)[](https://www.qualcomm.com/)[](https://imaginecommunications.com/)[](https://www.watonomous.ca/)[](https://uwaterloo.ca/)[](https://www.linkedin.com/in/zahin-zaman/)[](https://github.com/alvii147)[](https://devpost.com/alvii147)

**quickVax**

***HackTheNorth 2020++***

* A web application that efficiently matches vaccine receivers with medical institution using patient priority queue system
* Employed backend **Django** server and SQLite3 database using **Django REST framework**
* Developed frontend **React.js** application with **Bootstrap** classes and REST API server communication

**pupil**

***HackDuke 2020 – Wolfram Award***

* **OpenCV** application that detects pupil movement and develops eye-tracking communication for Cerebral Palsy patients
* Applied **Haar Cascade classifiers, blob detection** and **morphological transformations** to process images
* Utilized **multi-state sigmoid activation function** to calibrate pupil coordinates

**Hachiko's Journal**

***HackRU 2020 – 1st Place Health Hack***

* AI-based digital therapeutic journal writing for mental health patients with interactive virtual assistant
* Performed sentiment analysis using **Google Cloud Language** to provide real-time feedback and compliments
* Developed desktop application with stylish frontend and interactive virtual assistant using **PyQt5**

**EduSource**

***HackTheU 2020 – Best Use of Google Cloud***

***Hackrithmitic 2020 – Best Use of Google Cloud***

* Web application for enriched remote education, crowdsourcing course materials and scientific equation recognition
* Constructed full-fledged **Flask** application in **Python** with **HTML, CSS** and **Bootstrap**
* Employed **Google Cloud Vision** tool to implement scientific equation recognition from handwriting

**EXPERIENCE**

**Open-Source Software Developer**

*codePrentice | Sept 2020 – Present*

* Streamlined **Python** package structure for open-source **multiparty-computation** library MP-SPDZ
* Expanded machine learning computation to support **Tensorflow SqueezeNet, ResNet** and **DenseNet** models
* Implemented image processing operations in **Pillow** and **SciPy**

**Software Developer**

*Wind River Systems | Sept 2020 – Dec 2020*

* Rectified multi-threading and memory-based defects in **C** and inline **Assembly** for VxWorks RTOS and Helix hypervisor source code
* Developed interactive program in **PyQt5** that assists in writing git commit messages, and verifies Jira issue and code review status
* Formulated git hook script to detect and block commits on restricted files and identify file author

**Display Verification Engineer**

*Qualcomm | Jan 2020 – May 2020*

* Engineered **SystemVerilog** assertions and **C++** simulations tests to verify display processor design
* Attained **20%** increase in functional coverages by debugging waveform using Synopsys Verdi tool
* Automated formal verification using **Perl** scripting to extract design hierarchy and formulate assertions
* Web-scraped design database and employed **PyQt5** to build interactive GUI for managing hardware registers

**Embedded Software Developer**

*Imagine Communications | May 2019 – August 2019*

* Reconstructed source code in **C/C++** on a Linux environment to fix firmware bugs
* Extracted IP routing data from data structures and developed troubleshooting functions and mapping tables
* Utilized **SoapUI** to inspect and track REST API processes

**CAN Interfacing Team Member**

*WATonomous | Jan 2019 – April 2019*

* Developed **Python** code in **ROS** framework for car’s lock and turn signals and inertial navigation system driver
* Enhanced low-speed **CAN** interfacing system of the car and performed simulation in Virtual CAN Driver

**EDUCATION**

**University of Waterloo**

*B.A.Sc. in Electrical Engineering, 3A | Sept 2018 – May 2023*

* **Term Dean’s Honour List,** for outstanding academic performance
* **President’s Scholarship of Distinction**

**PROJECTS**

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