[](mailto:zm2zaman@uwaterloo.ca)

**TECHNICAL SKILLS**

ZAHIN M. ZAMAN

[](https://devpost.com/software/pupil-3sctez)[](https://youtu.be/eLksAlg7IP8)[](https://devpost.com/software/hachiko-s-journal)[](https://github.com/alvii147/HachikosJournal)[](https://youtu.be/P16aGODx5OU)[](https://github.com/alvii147/EduSource)[](https://cram-ai.herokuapp.com/)[](https://devpost.com/software/cram-ai)[](https://devpost.com/alvii147)[](https://devpost.com/software/edusource)[](https://youtu.be/-2_g7Y_6jL8)[](https://youtu.be/_9XTW2mqdjo)[](https://github.com/alvii147/pupil)[](https://github.com/alvii147/cram.ai)[](https://github.com/alvii147)[](https://www.linkedin.com/in/zahin-zaman/)[](https://zahin-zaman.vercel.app/)

**EDUCATION**

**University of Waterloo**

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

* **Term Dean’s Honour List,** for outstanding academic performance
* **Artificial Intelligence Degree Specialization**

**EXPERIENCE**

**Embedded Software Developer**

*Imagine Communications | May 2019 – Aug 2019*

* Reconstructed **C/C++** code on Linux environment to fix firmware bugs
* Extracted IP routing data from data structures and developed troubleshooting functions and mapping tables

**Display Verification Engineer**

*Qualcomm | Jan 2020 – May 2020*

* Attained **20%** increase in functional coverages by engineering **SystemVerilog** assertions to verify processor design
* Automated formal verification using **Perl** scripting to extract design hierarchy and formulate assertions

**Software Developer**

*Wind River Systems | Sept 2020 – Dec 2020*

* Devised thread-safe functions in **C** and inline **Assembly** to fix multi-threading and memory-based defects for VxWorks RTOS
* Developed interactive application in **PyQt5** that assists in writing git commit messages and verifies status of Jira issues and code reviews
* Formulated git hook script to block commits on restricted files

**Open-Source Software Developer**

*codePrentice | Sept 2020 – Present*

* Expanded Python multiparty-computation library, **MP-SPDZ,** to support **CNNs** including SqueezeNet, ResNet & DenseNet
* Composed [comprehensive tutorial](https://stumpy.readthedocs.io/en/latest/Tutorial_Annotation_Vectors.html) based on Matrix Profile research paper for Python time series analysis library, **STUMPY**
* Worked on optimizing multi-threaded Matrix Profile computation algorithm using **NumPy** and **Numba** to avoid cache misses

**Full-Stack Developer**

*Nokia | May 2021 – August 2021*

* Developed & managed authentication security, community articles page and voucher redemption system for [Nokia Network Developer Portal](https://network.developer.nokia.com) on **Django** server with an **Azure MySQL** database
* Secured backend using **Django REST framework** API permissions, cross site scripting protection and honeypot setups
* Composed unit tests for Django forms, models and API endpoints, and configured **Docker** image for **Gitlab CI** automation testing
* Designed responsive frontend in **Jinja2** using **jQuery** and **Bootstrap**

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zahin-zaman.vercel.app

devpost.com/alvii147

github.com/alvii147

**Hachiko's Journal**

HackRU – **1st Place Health Hack**

* AI-based digital therapeutic journal writing application 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 interactive virtual assistant using **PyQt5**

**cram.ai**

WinterHacklympics – **Best Use of Google Cloud**

* Utilized **YouTube Transcript API** to extract lecture video transcript and applied pre-trained **RNN** to add punctuation
* Incorporated **NLTK** and **Google Cloud Language** to summarize lecture videos
* Generated flashcards with questions and answers in a user-friendly frontend served by a **Flask** backend hosted on **Heroku**

**pupil**

HackDuke – **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 transforms** to process real-time footage
* Utilized **multi-state sigmoid activation function** to calibrate pupil coordinates

**PROJECTS**

**EduSource**

HackTheU – **Best Use of Google Cloud**

Hackrithmitic – **Best Use of Google Cloud**

* Web application for enriched remote education, crowdsourcing course materials and scientific equation recognition
* Employed **Google Cloud Vision** to implement scientific equation recognition from handwriting
* Built **Flask** app with **HTML, CSS,** and **Bootstrap,** and managed database **ORMs** in **Flask SQLAlchemy** and **SQLite3**

**Languages:** Python, C++, JavaScript, HTML, CSS, Bash

**Frameworks:** Django, Flask, React.js, React Native, MySQL, PostgreSQL, TensorFlow, Keras, OpenCV, pandas, Matplotlib, PyQt5

**Tools/Services:** Docker, Google Cloud, Heroku, Firebase

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