

# Muhammad Fiaz

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[GitHub](#) | [LinkedIn](#) | [Portfolio Website](#)

## EDUCATION

### University of Alberta

Software Engineering, BSc (Co-op Program)

3rd Year, Class of 2024

Cumulative GPA: 3.4 / 4.0

## WORK EXPERIENCE

### Automation Developer

Nokia

January – April 2022

- Creating scripts for test/task automation using Bash, TCL, and Python
- Performing unit testing of new software features in a Linux-based regression environment
- Build test networks, and use test equipment for traffic generation and protocol emulation
- Work closely with testers and developers to investigate and resolve bugs
- Test traffic encryption and authentication at IP and/or MAC level

### Software Developer

Neurocage Systems Ltd.

May – September 2021

- Created artificial intelligence systems for animal husbandry in rodent homecages
- Built, deployed, and optimized both classic and ML algorithms to estimate homecage state (food levels, water levels, cage dirtiness, etc) primarily with Scikit-learn and Keras
- Experienced developing image processing pipelines using OpenCV, Numpy and Scikit-image
- Curated datasets and developed complex queries with MySQL
- Exposed to back-end website development with Flask

## PROJECTS ([Portfolio Website](#))

### Student-Developed Train ([Website](#))

- Managing team of six in developing software system for next-gen train system (Hyperloop) as Software Team Lead
- Leading autonomous motor control system development using C++ and Teensy 3.6 microcontrollers
- Implemented vehicle communication network based on CAN Protocols

### UAlberta Clubs Credit Tracking Website: **Creddi** ([Github Repo](#))

- Lead team of 4 developers in developing consumer credit tracking system for UAlberta Clubs' food sales
- Built website front-end using React, HTML, CSS, and JavaScript
- Developed REST API for website back-end with TypeScript, Node.js, and the Express framework
- Integrated database for storing transaction data using PostgreSQL

### Autonomous Human Tracking Fan and Web App ([Github Repo](#))

- Developed fan capable of tracking users using camera feed, as well as associated web app
- Built desktop app for manual control with HTML, CSS, and JavaScript front-end, and Flask back-end
- Integrated Human Tracking Capabilities using neural networks powered by Tensorflow

### Airblip ([Github Repo](#))

- Created solution allowing for data transfer over sound as hackathon project
- Developed Android app capable of encoding bytes into sound using Java
- Implemented desktop app for sound reception and decoding using Flask

## TECHNICAL SKILLS

**Programming Languages:** Python, TCL, C, C++, Java, JavaScript, TypeScript

**Tools/Frameworks:** Tensorflow, Keras, Git, HTML, CSS, Flask, React, Express, Node.js, OpenCV, SQL, MySQL, SQLite, PostgreSQL, MongoDB, Docker, RTOS, Linux, Bash, Android Studio

**Miscellaneous:** REST APIs, Microsoft Office

## VOLUNTEER EXPERIENCE

### Albertaloop, Software Team Lead

May 2021 – Present

Helped organize large fundraising events, ran weekly technical/leadership meetings, and managed developer team

### Computer Engineering Club, Vice President Internal

September 2020 – Present

Handled several professional development programs, arranged VP meets, and organized merchandise sales

### Interdepartmental Science Student Society, Web Development Volunteer

2020

Member of programming committee, developed event website, helped manage leaderboards and website during event

## ACHIEVEMENTS

**1st Place** – Junior Design, Western Engineering Competition 2021

**Winning Project** - HackEd Beta 2020

**1st Place** - Junior Design, University of Alberta Engineering Competition (UAEC), 2020