Muhammad Fiaz

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GitHub | LinkedIn | Portfolio Website

EDUCATION

University of Alberta 4th Year, Class of 2024
Software Engineering, BSc (Co-op Program) *Cumulative GPA: 3.4 / 4.0*

TECHNICAL SKILLS

Programming Languages: Javascript, Typescript, Java, Kotlin, Python, C++, C, TCL
Tools/Frameworks: Express, Node.js, React, Spring Boot, Flask, jQuery, Git, GitLab, HTML, CSS, Docker, Linux, Bash, Android
Databases: PostgreSQL, MongoDB, MySQL, SQLite
Miscellaneous: Data Structures & Algorithms, OOP, UML, Requirements Engineering

WORK EXPERIENCE

Nokia, *Software Developer Co-op* April – December 2022

- Developing front & back-end features for Verizon Wireless Service Portal, the primary internal network asset management web app used for managing & configuring nearly all 100 000+ company network assets, worth over $10B
- Significantly impacted support engineer team efficiency by constructing data acquisition API for network element configuration failures using Java, Spring Boot, and JDBC – automating manual task of 1hr to less than 1s
- Greatly benefited user experience by designing and implementing Network Report API using Java, Spring Boot: converting legacy asynchronous report request system to ad-hoc format while retaining full cross-compatibility
- Reduced report viewing times by over 15x compared to legacy system by rebuilding and modularizing 5 legacy reporting pages using Polymer.js, jQuery, and styling with Bootstrap
- Impacted merge request review time by implementing multi-stage test & build Gitlab pipeline across 20+ modules

Nokia, *Automation Developer Co-op* January – April 2022

- Wrote testbed configuration scripts for new router platform currently in use by over 100 test engineers using TCL
- Reduced manual traffic test workflow time for router chips by over 10x
- Debugged and identified root cause of complex bugs, heightening stability of fundamental software features
- Designed and implemented unit tests of new software features in a Linux-based regression environment

Neurocage Systems Ltd, *Software Developer Co-op* May – September 2021

- Built, deployed, and optimized computer vision systems for rodent cage state estimation (food levels, water levels, etc)
- Re-constructed state estimation system, reducing total footprint of ML models from 13GB to 3GB
- Developed system using Scikit-Learn capable of estimating homecage fecal matter counts with accuracy of over 90%
- Implemented texture analysis and image processing pipelines using OpenCV, Numpy and Scikit-Image

PROJECTS [Portfolio Website]

Data Collection App and REST API for Automated Mood Tracking Study [Github Repo]

- Developing mental health app to automatically infer user mood using phone usage data, in team of three
- Conducting study with team of ~20 volunteers to determine effectiveness of mood inference approach, using Kotlin-based Android app created specially for study
- Constructed complex data collection system for acquiring volunteer phone usage data
- Built secure REST API for data storage with PKCE Authorization Code Flow using Auth0, Typescript, and Node.js
- Created self-made automated deployment and update system for new app releases, without Google Play Store

UAlberta Clubs Credit Tracking Web App: Creddi [Website][Github Repo]

- Led team of 4 developers in building centralized credit tracking system for food sales, saving UAlberta clubs estimated $100-$200 in transaction fees annually
- Developed web API and email queuing system with Typescript, Node.js, integrating Twilio Sendgrid API for email invoices

LEADERSHIP EXPERIENCE

Computer Engineering Club, *Co-President | Former VP Internal* [Website][Github Org] September 2020 – Present

- Restructured club from student advocacy to service/event-based model, increasing revenue by 200% over last year
- Managing development of UAlberta's first tech-focused career fair, Career++, with the aim of attracting focus of Canadian tech companies' recruitment to UAlberta
- Led club through financial crisis involving 30% funding reduction, loss of bank account, while retaining club services
- Growing UAlberta tech community through addition of 4 new programs, including mentorship initiative and project fund

Albertaloop, *Software Team Lead* [Website][Github Repo] May 2021 – February 2022

- Led team of 10 developers in writing software for train on-board computer system
- Hosted weekly introductory training sessions and workshops on C++, Arduino, and Git for new developers
- Developed autonomous train control system and API for communication with industrial motor controller using C++

ACHIEVEMENTS

- **Schulich Leader Scholarship in STEM 2022**
- **William S Ziegler Leadership Award 2021**
- **1st Place** – Junior Design, Western Engineering Competition 2021 [Link]
- **Winning Project** - HackEd Beta 2020 [Github Repo][Devpost]