

# Muhammad Hassan Tariq

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## EDUCATION

**Bachelor of Science in Software Engineering**, *University of Calgary* 📄

Aug 2018 – Apr 2023

Clubs: Developer Student Club, Competitive Programming Club, Engineering Leadership Program

Calgary, Canada

Coursework: Data Structures & Algorithms, Operating Systems, Software

Development/Design, Computer Networks, Data Base Management Systems, Embedded Systems, Software Architecture

## PROFESSIONAL EXPERIENCE

**Software Engineer Intern**, *General Motors*

Jan 2022 – present

- My role consists of participation in architecture, design and implementation of back-end features and bugfixes mostly using C# and sometimes React as part of the Map Data Tools Team.
- Obtained high exposure to agile methodologies and development best practices.
- Successfully implemented a critical bugfix that was blocking the key production pipeline.

**Software Engineer Intern**, *TELUS*

Jan 2021 – Dec 2021

- My role consisted of working on and helping with various machine learning, data science, and data engineering tasks as part of the Advanced Analytics and AI Enablement Team.
- Prototyped a robust machine learning classification model for predicting pet owners using various classification algorithms. Presented data science findings to peers, illustrating the potential of the data and the evaluation of the models. Productionized the model on GCP.
- Improved the usability of an automation script used for geofencing through extensive documentation, code, and migration to GCP.
- Provided comprehensive data analysis on a network improvement churn reduction business case leveraging 5G data. Compiled a final list of target customers through extensive querying and various query prototypes. Campaign successfully delivered.
- Prototyped an LSTM deep learning model for predicting network experience perception. Presented findings to a group of over a 100 people including executives. Model was to be put into production shortly after I left.
- Key Technologies: Good Cloud Platform, Python, SQL

## SKILLS

**Back-end Development**

C#, Java, Python, C++/C

**Python for DS/AI**

sklearn, pandas, numpy, pycaret, xgboost, geopy, keras

**Cloud and Database**

Google Cloud Platform, BigQuery, BQML, SQL

**Front-end Development**

Javascript, HTML, CSS, React, Node, Express

## PROJECTS

**EduConnect** 📄

Feb 2021

- Developed a multi-functional full-stack web app for students using **HTML/CSS** for the front-end and **JavaScript/Node/Express** for the back-end. Users account data and course schedule information is stored in a **MongoDB/Mongoose** Database.
- The complimentary discord bot is created using **JavaScript/Discord.js** and I leveraged the **Google Cloud** DialogFlow API to create an integrated AI chat bot.

**Student Course Registration App**

Apr 2020

- Developed a full-stack **Java** application using the spring framework and SQL database
- Explored many practical concepts including object-oriented design and development, client-server architecture, multithreading, JDBC, GUI, Java MVC and Git version control.

**Sage Medical Clinic Appointment Booking App** 📄

Dec 2020

- Developed a full-stack app using **HTML/CSS** for the front-end and **JavaScript/Node** for the back-end. Users account data and appointment information is stored in a local MS SQL Server.