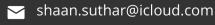
# **SHAAN SUTHAR**

# 3rd Year Mechatronics Engineering Student



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Toronto, ON, Canada

in linkedin.com/in/shaan-suthar

github.com/shaansuthar

#### **SKILLS**

#### Software Development

- Python
- C/C++
- C#
- Javascript / Typescript
- HTML
- CSS
- Java
- SQL (MySQL, MSSQL)
- React.js
- Node.js
- Azure
- Git
- Visual Studio Code
- Visual Studio

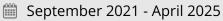
#### Other

- Solidworks
- Matlab
- MS Office
- Multisim

#### **EDUCATION**

## **McMaster University - B. Eng**

Mechatronics Engineering



#### **Awards**

- Dean's List 2022
- FIRST Engineering Scholarship
- Engineering Research
   Experience Award Scholarship
- Facult of Engineering: Award of Excellence

#### **WORK EXPERIENCE**

# Software Engineering Intern

#### Microsoft

May 2023 - August 2023



- Created diagnostic tool to exponentially reduce the time it takes backend developers to search for missing URLs in the Bing Search main index containing 400 billion documents
- Analyzed log files in **Bing's main repository** to consolidate certain information to monitor when a document got deleted
- Deployed the C# code to production and optimized the algorithms to reduce memory utilization, runtime costs, and downtime to outages
- Developed an API and integrated it into a web portal to allow others to easily check the history of multiple URLs

# Explore Intern (SWE / PM)

#### Microsoft

May 2022 - August 2022



- Redesigned wiki page for a big data analytics tool used internally
- Built wiki using Docusaurus, a **React**-based static site generator
- Integrated Azure AAD authentication, light/dark mode, a chatbot, search functionality, and a dynamic landing page that customized to the user by querying a MySQL database for info on the user
- Developed website and chatbot in a CI/CD pipeline running on Azure DevOps, hosted on Azure, released into production, and improved on it based on user feedback

# Stock and Options Trader

# Self-Employed

June 2020 - August 2021



- Grew portfolio by 50% by analyzing trends and price action of stocks in the NYSE, NASDAQ, Russell 2000s, and Dow Jones
- Bought and sold puts, calls, and spreads to generate profit while managing risk
- Coded indicators in Thinkscript for ThinkOrSwim and Pine Script for TradingView to identify when specific strategies occurred and automated sending a signal for it in each trading platform

## **PROJECTS**

## 3D Printed Arduino Quadcopter and Controller

October 2019 - November 2019

- Led a group of 4 to create a drone from scratch
- Used CAD to design the drone frame and 3D printed it
- Custom-made and coded a flight controller and transceiver using Arduinos, sensors (IMU), and C/C++
- Used **PID** feedback loops to ensure stable flights

### **HACKATHONS**

# Happy RecycleMore Deltahacks IX

January 13-15, 2023

- Won 2nd overall out of 120 teams and 400+ participants
- Developed a recycling lid that used ML to classify items as garbage or recycling and sort them accordingly
- Utilized a **Tensorflow** model and **OpenCV** to determine the material and then send a signal to a servo to sort the material accordingly

# FoodSnaps

#### **Hack Western 9**

- Movember 18-20, 2022
  - Developed a mobile app using **React Native** to enable users to get recipe recommendations based on the ingredients they take a picture of
  - Leveraged the Spoonacular API to accurately classify food ingredients from images and provide recipe recommendations

# EYEs.py

#### Hack the North 2022



- Developed an eye tracking system to record eye positioning and map it to a 2D matrix to monitor where a user focus the most on a webpage or ad
- Utilized Adhawk's Mindlink eye tracking glasses for hardware integration and leveraged Adhawk's **Python SDK** for seamless data acquisition
- Implemented data visualization techniques using **Matplotlib** to generate heatmaps based on the collected eye tracking data

#### **EXTRACURRICULARS**

# Microsoft Student Ambassador Microsoft



Hamilton, ON, Canada

- Completed Microsoft Learn Al learning path
- Hosted an event for 40 high school students that taught them how to use Github Codespaces to code in the cloud and the basics of web development and how to host and deploy their website on Github Pages

# Suspension & Steering Subteam Lead / Past Chassis & Ergonomics Subteam Member MAC Formula Electric (FSAE Competition)

Cctober 2021 - Current

Hamilton, ON, Canada

- Promoted to lead a team of 15 to design and manufacture the suspension and steering system for a 1/4 scale electric F1-style race car
- Collaborated with others to calculate ideal spring rate and travel for the suspension using **Excel**
- Optimized four bar suspension arm dimensions using MatLab
- Designed the front and rear bellcranks for the car to optimally transfer motion of the wheels to the springdamper system
- o Optimized bellcrank design for manufacturing and weight
- Validated design through FEA using Solidworks
   Simulations
- Manufactured carbon fibre panels and monocoque
- Completed various structural tests (ex. 3-point bend test) on parts to prove car safety

# Current Mentor / Past Team Captain & Head Driver

## FIRST Robotics Competition (FRC Teams 5076 and 6110)

January 2019 - Current

Ajax, ON, Canada

- Mechanical lead and head driver for the team of 30 for 2 consecutive years and co-team captain in 2020
- Designed using CAD, prototyped, manufactured, and tested the intake, indexer, and shooter on the robot
- Coded the robot's autonomous and tele-operated modes in Java
- Currently mentor high school students in the competition through workshops and weekly design reviews