

Tuhin Ghose

Software Engineer

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EDUCATION

University of Toronto | Bachelor of Applied Science in Computer Engineering

Expected Apr. 2023

- sGPA: 3.53/4.0 and Dean's Honor List (2020- winter)
- Pursuing minor in Artificial Intelligence Engineering
- **Merit Certificate** for APS105 in 2020: For designing **Reversi bot** in **C** that defeated the course bots
- **Relevant Courses:** Calculus III, Linear Algebra, Engineering Strategies and Practices II, Circuit Analysis, Digital Logic, Computer Fundamentals using C, OOP in C++, and Communication and Design using C++ (winter 2020)

EXPERIENCE

Technical Vice President

Oct. 2019 - Present

Engineers without Borders (UofT chapter) | Innomasters, Youth Engagement | Toronto

- **Presenting** the annual Innomasters workshops and **hosting the Design Showcase** that trains high school students to solve and **design solutions for problems** using the **engineering design process**.
- **Revising** the **prototyping and modelling techniques** to **facilitate remote working** due to the pandemic.
- **Maintaining** and **updating** the **webpages** for Innomasters.

Member

Sept. 2019 - Present

University of Toronto Robotics Association | Computer Vision and Machine Learning | Toronto

- Working on the software for the autonomous rover for the International Autonomous Robot Racing Challenge.
- Using **OpenCV** and **NumPy** in **python3** to implement an algorithm that **detects the positions of the rover** and **calculates the curvature of the path ahead of the rover**.

Virtual Internship Program Participant

Aug. 2020 – Sept. 2020

KPMG | Data Analytics and Consulting | Participated in the open access Virtual Experience Program with InsideSherpa

- Used **pandas** in **python3** to assess data quality and omit entries with incorrect/missing information.
- Created a model based on **RFM analysis** to target the 1000 most high value customers.
- Made plots and graphs using **seaborn** and **matplotlib** to present insight and compiled a list of high value customers.

Team Lead

Jan. 2020 – May 2020

University of Toronto | Led team to design a clothing storage system for Lord Lansdowne Child Care Center

- **Improved efficiency** by distributing work and **managing resources** using **Microsoft Projects** with the Project Manager and **consistently met deadlines**. Also, **oversaw** and helped the team members.
- Final design made using **FUSION360** and the design met the **ISO standards** and the Ontario health standards.
- Developed presentation for the client that included salient features of the design, **performance in tests** prescribed by ISO, **comparison with industry** alternatives, and **cost analysis** demonstrating our design's feasibility.

PROJECTS

- Heart Disease Predictor: **python3** program that analyzes trends between risk factors using **pandas**, **seaborn** and **matplotlib** and uses ML models like **regression**, **decision trees**, **Naive Bayes** and **SVM** using **scikit-learn** to predict heart diseases.
- Araneae: **python3** spiderbot that uses **requests** to fetch a user entered **Wikipedia URL** and uses **BeautifulSoup** to **scrap** the page and stores the information from the article in a text file.
- shapesDb: **C++** program that **dynamically** creates and stores **nested linked lists** of shapes and group of shapes using OOP principles. **List traversal**, **error checking** and **allocation/de-allocation of memory** performed.
- Kryptos: **C** program that utilizes **dynamic memory allocation** and **sorting** for **string manipulation** to encrypt/decrypt text.

SKILLS & INTERESTS

- Languages: C, C++, Python, SQL, Verilog, HTML, CSS, and MATLAB
- Libraries and Frameworks: NumPy, pandas, matplotlib, seaborn, scikit-learn, OpenCV, bs4, requests, and Bootstrap
- Tools: GitHub, Visual Studio, MySQL, Jupyter, Linux, Intel Quartus Prime, MS Project, MS Office, and Google Analytics