Tuhin Ghose

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EDUCATION

University of Toronto | Bachelor of Applied Science in Computer Engineering (with A.I Minor) **Expected Apr. 2023**

- cGPA: 3.06/4.0 and Dean's Honor List (2020- winter)
- **Merit Certificate** for APS105 in 2020: For designing **Reversi bot** in **C** that defeated the course bots.
- **Relevant Courses:** Digital Logic, Computer Fundamentals using C, OOP in C++, and Communication and Design using C++, Computer Organization using Assembly language and C, Programming languages, Operating Systems (Winter 2022), Data Structures and Algorithms (ongoing), Introduction to Machine Learning (Winter 2022)

EXPERIENCE

Co-founder and CTO **May. 2021 – Sept. 2021**

Salus | Toronto

- Developed a business plan for a mobile-first website to show users price comparison and let them buy tech products.
- Used **Excel** to perform data analysis on user survey to pinpoint our target market and their shopping habits.
- **Designed mockups** and a **prototype** of the app using **Adobe XD**.
- Part of the UofT NEST Hatchery Program. Discussed updates on the business plan weekly to the advisory board and did pitch presentations biweekly. Created **sales projections** and the **revenue model** of the business as well.

Member **Sept. 2019 – Apr. 2021**

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

- Worked on the software for the autonomous rover for the International Autonomous Robot Racing Challenge.
- Used **OpenCV and NumPy in python3** to implement an algorithm that **detected the positions of the rover** and **calculated the curvature of the path ahead of the rover.**
- Worked on **creating a depth map** from the 2D input images and sensor data by integrating open-source projects.

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.
- **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

- GoTo: **C++ GIS** that works as a travel companion. Developed a fully working GUI using Cairo and EzGL. Uses **A* algorithm for path finding** and solved a variant of the travelling salesman problem using a **Greedy Nearest Neighbor** algorithm.
- 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.
- College Database: **SQL program for creating and querying a database in MySQL** for any high school or college system.
- 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.
- Kryptos: **C** program that utilizes **dynamic memory allocation** and **sorting** for **string manipulation** to encrypt/decrypt text.

SKILLS

- Languages: C, C++, Python, Assembly, Rust, SQL, Verilog, HTML, CSS, and MATLAB
- Libraries and Frameworks: NumPy, pandas, matplotlib, seaborn, scikit-learn, OpenCV, bs4, requests, and Bootstrap
- Tools: Git, MySQL, Intel Quartus Prime, MS Project, Adobe XD, Adobe Illustrator and Google Analytics