

# Tuhin Ghose

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## EDUCATION

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

- 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:** Computer Fundamentals (C), OOP (C++), and Communication and Design (C++), Computer Organization (Assembly & C), Programming languages (Python, Rust, C++ ongoing), Operating Systems (Winter 2022), Data Structures and Algorithms (ongoing), Introduction to Machine Learning (Winter 2022)

## SKILLS

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- Languages & Framework: C, C++, Python, Assembly, SQL, Verilog, HTML, CSS, MATLAB, JavaScript, and Bootstrap
- Tools: Git, MySQL, Intel Quartus Prime, MS Project, Adobe XD, Adobe Illustrator, MS Office, and Google Analytics

## EXPERIENCE

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### Co-founder and CTO

**May. 2021 – Sept. 2021**

Salus (Part of the UofT NEST Hatchery Program) | 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 a user survey to pinpoint our target market and their shopping habits.
- **Designed mockups** and a **prototype** of the app using **Adobe XD**.
- Made a **biweekly sales pitch** to the advisory board members. **Researched** key players in current industry to develop **sales projections** and the **revenue model** of the business as well.

### Software Developer

**Sept. 2020 – 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, TensorFlow 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**. **Coordinated** and **motivated** team members to meet internal deadlines.
- **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 (more projects listed on GitHub)

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- 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.
- Database client: **python3 ORM** (like Django) that implements insert, update, get and scan, serializes data and send to the easyDB server.
- Kryptos: **C** program that utilizes **dynamic memory allocation** and **sorting** for **string manipulation** to encrypt/decrypt text.