

# Sajeev Debnath

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## EDUCATION

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### University of Toronto

*Bachelor of Applied Science, Computer Engineering (2nd Year)*

GPA: 3.60, Dean's Honour List, UofT Engineering International Scholar Awardee

Toronto, ON

*Sep. 2022 – present*

## EXPERIENCE

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### GUI Software Developer

*aUToronto*

Oct 2023 – Present

*Toronto, ON*

- **Developing the graphical user interface (GUI)** for an Autonomous Car set to compete in the SAE AutoDrive Challenge, an event organized by SAE International and General Motors.
- **Leveraging Python and the ROS2 framework** to write publisher and subscriber nodes, thereby enabling efficient communication between multiple nodes in a highly distributed system.

### Project Manager

*University of Toronto*

Jan 2023 – April 2023

*Toronto, ON*

- Managed a **6-member team** tasked with developing solutions to extinguish Lithium Ion Battery Fires in high-rise buildings for the **Toronto Fire Services**.
- Delegated tasks and set deadlines **using Gantt Charts created in MS Excel**, which resulted in the team consistently meeting all deadlines at least a day ahead of schedule.
- The project was a part of the Engineering Strategies And Practice II course at the University of Toronto and **received a grade of A-**, surpassing the cohort average of B+.

### SUMO Robotics Competition Member

*UTRA*

Sep 2022 – April 2023

*Toronto, ON*

- Programmed attacking features using **C++** code in Arduino IDE to charge at an opposing robot when the ultrasonic sensor **detects a body within a 1-metre distance**.
- Designed a 13cm-by-13cm autonomous robot chassis using **SolidWorks**.
- Achieved **3rd place** in the competition

## PROJECTS

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### Autonomous Line Tracking Robot | *C++, AutoCAD, GitHub*

July 2023

- Implemented **line tracking** features of the IR sensors to handle 90-degree turns, slight turns, going straight, and stopping most efficiently using **C++** code in Arduino IDE
- Collaborated on writing the code with other team members using **GitHub**
- Designed the chassis of the robot using **AutoCAD** and printed the design using a 3D printer

### Robot Arm | *C++, GitHub*

August 2023

- Developed a robot arm that can be controlled using a Bluetooth controller on the phone programmed in **C++**
- Utilized Adafruit libraries to **enable Bluetooth connection** between the Adafruit app and its micro-controller

### 2 Player Maze Game | *Verilog, FPGA*

December 2023

- Implemented PS2 keyboard input, background audio using memory blocks, and timer using Verilog programming on the **FPGA**
- Project was part of the Digital Systems course (ECE241) at the University of Toronto and it received a **score of 85 out of 90**

## TECHNICAL SKILLS

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**Languages:** C, C++, HTML/CSS, JavaScript, HDL Verilog, Python

**Developer Tools and Frameworks:** GitHub, GitLab, VS Code, Linux, ROS2

**Other software:** SolidWorks, AutoCAD, MS Excel

## ONLINE PORTFOLIO

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**Visit:** <https://sajeev-d.github.io/onlinePortfolio/> | **HTML, CSS, JavaScript**