Sajeev Debnath

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Education

University of Toronto — Toronto, ON
Bachelor of Applied Science, Computer Engineering (2nd Year) + PEY Coop — *Sep. 2022 – June 2026*
GPA: 3.60, UofT Engineering International Scholar Awardee (C$100,000)

Technical Skills

Languages: C++, C, Python, HTML/CSS, Assembly, HDL Verilog
Developer Tools and Frameworks: Git, GitHub, GitLab, Linux, VS Code, Arduino, PyQT, ROS2, RVIZ, FPGA
Other software: SolidWorks, AutoCAD, MS PowerBI , MS Excel

Experience

GUI Software Developer — Oct 2023 – April 2024
aUToronto — *Toronto, ON*

- Developed a **computer simulation** of a car by transforming an STL file into a URDF file, enabling precise visualization of bumper positions relative to the car's center in **RVIZ**.
- Designed **4** GUI interfaces for **24** configurable parameters in **PyQT5** on a **Linux** Virtual Machine
- Programmed functions of checkboxes and sliders in the interface using **Python**

Project Manager — Jan 2023 – April 2023
University of Toronto, Engineering Strategies & Practice II — *Toronto, ON*

- Managed a team of **6** members which led to all deadlines being met at least 1 day ahead by using Gantt Charts to measure progress in **MS Excel**
- Authored a 68-page engineering report, resulting in an **A- course grade, exceeding the B+ average**, by collaborating in Google Docs

Hackathons & Projects

Geographic Information System (GIS) program | *C++, Git, VS Code* — January 2024 - April 2024

- Implemented **agile** software development techniques including **revision control, debuggers, code verifiers, and unit tests** to program the functionality of 6 functions, resulting in a **40% reduction in bug reports and a 30% increase in overall code quality.**
- Collaborated within a team of 3, contributing **10 commits** to a remote repository using **Git**

UTRA Hacks | *C++, Git, Arduino* | *Github Link* — January 2024

- Achieved **1st place** out of 34 teams in the Autonomous Vehicle Hackathon
- Programmed line detection and obstacle avoidance algorithms by writing code in **C++**
- Collaborated in a team, resulting in **74 commits** in its GitHub repository using **Git**

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**

Autonomous Line Tracking Robot | *C++, AutoCAD, GitHub* | *Github Link* — July 2023

- Created algorithms to handle 90-degree turns, slight turns, going straight, and stopping using 4 IR sensors and 1 light sensor by coding in **C++**
- Designed chassis of the robot using **AutoCAD**

SUMO Robotics Competition | *C++, SolidWorks, Arduino* | *Github Link* — Sep 2022 – April 2023

- Achieved **3rd place** out of 6 teams
- Enabled autonomous object recognition and line tracking features by programming the algorithms in **C++** within the **Arduino IDE**
- Ensured that **70%** of the weight is positioned on the bottom half of the robot by designing the chassis using **SolidWorks**