Sajeev Debnath

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Education

University of Toronto — Toronto, ON

Bachelor of Applied Science, Computer Engineering (3rd Year) — *Sep. 2022 - June 2026 + PEY*

- UofT Engineering International Scholar Awardee
- UofT Entrepreneurship Hatchery NEST Fellowship 2024 Awardee

Technical Skills

Back-nd: C++, C, Python, Flask, Node.js, Git

Front-End: React, Next.js, JavaScript, HTML, CSS

Hardware & Low-Level: HDL Verilog, DE1-SoC FPGA, Arduino Uno, NIOS II Assembly

Work Experience

Software Developer & Founder — May 2024 - August 2024

DisputeLens | *Video* — *Toronto, ON*

- **Project 1**: Home Renovation Quote Analyzer | GitHub |
  - Developed a web application using **Next.js** and Python to analyze home renovation quotes, improving the understanding of **80%** of clients.
  - Implemented quote analysis functionality using **Anthropic API**, resulting in **1400% faster** processing of renovation quotes.
  - Automated text extraction from quote documents using **Python** with Pytesseract.
  - Deployed and maintained a **Flask**-based backend server.
  - Developed company website using **Node.js** framework, resulting in **20+ clients** joining the wait list.
- **Project 2**: Email Agreement Timeline Generator | GitHub |
  - Designed a Desktop application using **Python** with **PyQT5** framework that creates timelines of agreements in multiple emails or threads from Outlook **under 8s**.
  - Automated email extraction from users using **Azure Identity library**, reducing email search time by **560%**.
  - Implemented timeline generation using **OpenAI API**, resulting in **400% faster** analysis than manual prompting.
- **Business** Development | Pitch |
  - Presented business plan in **5 pitch** sessions, resulting in successful progression into the Go-to-market stage at the Entrepreneurship Hatchery at UofT.
  - Conducted market research through door-to-door surveys with **43 homeowners**, validating the problem statement with **79% strong resonance**, confirming market demand.

Projects & Hackathons

NomNom | *C++, Git* | Slide Deck | Demo | — January 2024 - April 2024

- Designed a map app in **C++** with the **OpenStreetMap API** for food delivery couriers to deliver efficiently.
- Implemented the **A* algorithm** to find the shortest path between two street intersections.
- Programmed the **multi-start** and **simulated annealing** algorithms, increasing path efficiency through multiple pick-up and drop-off intersections by **6%**.
- **Collaborated** with 2 classmates on this project for the Software Design and Communication course (ECE297) at the University of Toronto, receiving a **grade of A**.

Graphify | *C, Git* | GitHub | Demo | — March 2024 - April 2024

- Designed a graphing calculator program for the DE1-SoC FPGA **in C** to analyze linear, quadratic, and cubic graphs.
- Wrote algorithms to find intersections, display intersections using character buffers, play background music, and take PS2 keyboard input.

- **Collaborated** with 1 classmate on this project for the Computer Organisation course (ECE243) at the University of Toronto, receiving a score of **8.5 out of 10**.

UTRA Hacks | *C++, Git, Arduino* | Devpost | January 2024

- Programmed the Arduino microcontroller in **C++** to enable the rover to track lines and avoid obstacles.
- **Collaborated** in a **team of 4** using Git, resulting in 74 commits.
- Achieved **1st place** out of 50+ teams in the autonomous vehicle hackathon.

Maze Game | *Verilog, FPGA* | December 2023

- Wrote a program in HDL Verilog on the DE1-SoC FPGA to create a maze game.
- Developed software to enable PS2 keyboard input, background audio and timer functionality.
- **Collaborated** with 1 classmate on this project for the Digital Systems course (ECE241) at the University of Toronto, receiving a score of **85 out of 90**.

Othello | *C* | GitHub | Demo | March 2023

- Designed a terminal application in **C** to play Othello against the computer.
- Programmed the computer to make strong moves using the **Greedy algorithm**, choosing a move that flips the most squares for the current move.

Project Manager | *Communication, Teamwork* | Jan 2023 – April 2023

- **Coordinated** a team of **6** members by measuring progress using an Excel Gantt Chart, leading to all deadlines being met at **least 1 day ahead of schedule**.
- Authored a 68-page engineering report through collaboration in Google Docs for the Engineering Strategies & Practice II course (APS112) resulting in an **A- course grade, exceeding the B+ average**.