

# Huda Halani

huda.halani@mail.utoronto.ca | <https://www.linkedin.com/in/hudahalani> | 416-389-5383

## EDUCATION

### University of Toronto

Toronto, ON, Canada

*Bachelor of Applied Science (BASc) in Computer Engineering + Co-Op*

*September 2023*

### Relevant Coursework

*Programming Fundamentals (C, C++), Artificial Intelligence Fundamentals (Python, PyTorch, CNNs, NumPy), Computer Organization (Embedded C, Assembly), Software Design and Communication (C, Git)*

## TECHNICAL SKILLS

**Languages:** Python, C/C++, HTML/CSS, JavaScript, MATLAB, Verilog, Nios-V Assembly

**Frameworks:** React, Node.js, Material-UI

**Developer Tools:** Git, VS Code, Quartus Prime

**Technology:** GTK, OpenGL, OpenStreetMap API, OpenAI, DNS, GCP, Vercel, Clerk, Stripe, Firebase

## EXPERIENCE

### Digital Launchpad Intern

April 2025 – Present

*You're Next Career Network*

*Toronto*

- Developed a responsive Leaderboard using **React**, **Firestore**, and **CSS**, enabling real-time tracking and dynamic ranking of student participation, **increasing user engagement**
- Implemented features including **search**, **sort**, and color-coded attendance bars, enhancing **data accessibility** and enabling users to quickly interpret and **filter participation metrics** by name or major
- Utilized **SQL queries** to efficiently retrieve and aggregate attendance data, **optimizing backend performance** and ensuring accurate, up-to-date leaderboard rankings

### Computer & FPGA Programmer

January 2024 – April 2025

*University of Toronto*

*Toronto*

- Programmed terminal-based versions of Reversi and Word Search in **C** using **array structures** and the **standard string.h library**
- Utilized **OOP classes and inheritance** in **C++** to develop a frame-by-frame, terminal-based version of Pong
- Designed and developed an interactive IQ tester game on the **DE1-SoC FPGA** board in **Verilog HDL** for local player use, utilizing a **PS2 keyboard** for user input, a finite state machine to manage game logic, and a **VGA module/adaptor** for graphics output
- Created a fully interactive, dynamic Ping-Pong game in **embedded C** for the **Nios-V processor**, implementing PS2 keyboard input and real-time graphics rendering using VGA display

### Software Engineering Fellow

June 2024 – August 2024

*Headstarter AI*

*Hybrid - New York*

- Programmed and published a portfolio website using **HTML/CSS** to publicly showcase personal projects
- Programmed an Ontario Universities aid chat bot, "Rate my Professor" interface, and custom flashcard generator using multiple **AI developer tools (OpenAI API, etc.)**, accumulating **30+ total users**
- Created a customizable pantry list application using **Next.js** and **Firestore**, deployed with **Vercel** for high scalability

## PROJECTS

### Interactive Navigator Map | C++, GTK, OpenGL, Git

January 2025 – April 2025

- Collaborated in a group of three to design a **GIS-based map** application with interactive zoom/search features and graphical rendering using **GTK/OpenGL**
- Managed large-scale collaboration and version control using **Git** and **GitHub**
- Implemented **A\* algorithm** to determine and display minimum-distance paths between locations, achieving a total runtime of **< 15ms**
- Solved a real-world Traveling Courier Problem using multiDijkstra, greedy heuristics, 2-opt, and simulated annealing to optimize delivery routes for couriers