Ali Dahir

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EDUCATION

Carleton University **Ottawa, ON**
B.Sc. Electrical Engineering *June, 2024*
- IEEE Student Branch (2024)

WORK EXPERIENCE

Prodigy Services **Jul. 2024 – Present**
Front End Developer *Barrie, ON*
- **Designed** and **developed ProdigySecure**, an **internal web-based application** for document management, user verification, location tracking, and real-time updates.
- **Optimized backend performance** by **improving database queries and logic** to enhance efficiency.
- Utilized JavaScript, PHP, MySQL, and OpenAI API to enhance application functionality.

Honda **May. 2022 – Jan. 2023**
Engineering Intern *Alliston, ON*
- **Collaborated with engineering teams** to resolve **vehicle system issues** (fuel tank, engine harness, fuel pipe, crash sensors).
- **Documented test procedures** and maintained compliance with **ISO standards**.
- Operated and troubleshooted **Airbag Deployment Testers, Torque & Fastener Testers, Crash Sensor & Accelerometer Testers**.

PROJECTS GitHub Portfolio (Videos + Source Code): [https://github.com/AliDa-Eng]

Hardware Based Timer (FPGA Basys 3 Xilinx, Verilog HDL, Vivado)
- Designed and implemented a **hardware-based timer using Verilog HDL**, **integrated IP cores for clock management**, and optimized design constraints.
- Developed a **state-machine-based contro**l system to handle timer operations.
- **Simulated** and **verified logic** using Vivado to reduce power consumption.

Autonomous Maze Solving Car (C, Arduino, Embedded Systems)
- Developed an **Arduino-controlled robot** for **autonomous maze navigation**.
- Implemented **ultrasonic sensors** to detect obstacles and **real-time path planning**.
- Programmed **state-machine logic** for movement (left/right/forward/backward).
- Fine-tuned **sensor thresholds** for **accurate decision-making and obstacle avoidance**.

GUI Modelling Software (Python, Tkinter)
- Built a **Graphical User Interface (GUI) for high-frequency neural network modeling**.
- Integrated **real-time visualization of AI model performance**.
- Managed **data flow integration** between UI and **neural network back-end**.

SKILLS & INTERESTS

- **Programming:** C++, Python, Verilog, JavaScript, PHP
- **Embedded Systems & Hardware:** FPGA (Basys 3, Altera MAX V), Arduino, Microcontrollers
- **Software & Tools:** Vivado, MATLAB, Git, Linux, OpenAI API, MySQL
- **Algorithms & Data Structures:** Object-Oriented Programming (OOP), Pathfinding (Dijkstra),
- **Interests** : Competitive coding (Codewars level 6 kyu, hackathons) Robotics, AI, and software optimization, **Favorite Book:** *East of Eden* by John Steinbeck