

Advith Thoutu
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Portfolio: <https://meeadwith.github.io/>

Available for a 4 or 12-month co-op term before returning to full-time studies.
Systems-oriented engineer skilled in the **full computing stack**, from digital logic and microcontrollers to high-level application development

EDUCATION

Computer System Engineering, Co-op (4th year)

Carleton University, Ottawa, ON

September 2021-April 2026

- GPA: 9.19/12 (B+)
- Deans' Honour List (2021-2022)
- Dr. George O.M. Yee Scholarship in Engineering (2022)

EXPERIENCE

Data Analyst (Co-op)

DFO (Fisheries and Oceans Canada)

October 2024 – December 2024

- Migrated water level data to a centralized database and automated ingestion using API-driven workflows, ensuring data consistency and improving efficiency
- Developed flag mapping functions to ensure data reliability while enhancing visualization tools, such as station maps and time-series graphs, for in-depth analysis

Web developer (Co-op)

ECCC (Environmental & Climate Change Canada)

January 2024 – August 2024

- Developed high-performance algorithms and interactive data management tools for large datasets, significantly reducing query times for real-time analysis
- Implemented user access control and logging mechanisms, enhancing system security and integrity

APPLIED PROJECTS

Autonomous Multi-Agent Pursuit-Evasion on UGVs

September 2025 – April 2026

- Designed a real-time ROS2 Humble control architecture for a multi-agent "Invader-Defender" simulation
- Integrated OptiTrack motion capture data via UDP to drive a closed-loop proportional controller, ensuring precise path-following and target tracking

HARDWARE SKILLS

- **Platforms:** FPGA (Xilinx), MSP432, Raspberry Pi , ESP32 , ClearPath Jackal , Waveshare Rover
- **Sensors & Peripherals:** LiDAR , OptiTrack Motion Capture , IMU , Motor Controllers
- **Low-Level:** Verilog, ARM Assembly, C, C++, Digital Logic Design, UART/UDP/Serial Communication
- **Tools:** ModelSim, Vivado, RViz , Motive (OptiTrack)

SOFTWARE SKILLS

- **Core Languages:** C, C++, C#, Python, Java
- **Robotics & OS:** ROS2 (Humble) , Gazebo , Linux (Ubuntu) , DDS , Real-time Systems
- **Web Technologies:** ASP.NET, Blazor, Entity Framework, JavaScript, HTML, CSS, REST API Integration
- **Data Science & DB:** SQL, Pandas, NumPy, SQL Server Management Studio (SSMS)
- **DevOps & Tools:** Azure DevOps, Git, GitHub/GitLab, Jupyter Notebook, Unit Testing