Jordyn O'Brien

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Experience

Software Team Member, Iceberg ASV (Student Design Team) — Jul 2023 - Present

- Developing autonomous navigation algorithms using ROS2 & C++, enabling a student built surface vehicle to complete challenges involving obstacle avoidance, docking & maneuvering at RoboBoat's annual competition
- Attended the annual Njord Autonomous Ship Challenge in Norway alongside other team members where we placed fifth overall

Software Development Intern, CRC Canada - Ottawa, ON — May 2024 – Aug 2024

- Developed a map-based web application using Leaflet & React allowing researchers to visualize 5G network layouts across Canada
- Developed an algorithm using JavaScript to project 3D antenna pattern plots onto a 2D map allowing researchers to visualize simulation results within a map-based application
- Converted a web application codebase from vanilla JavaScript to React, reducing file lengths by over 50%
- Implemented spatial decimation and alpha shape algorithms, reducing the number of data points needed for rendering 3D plots, making plots render 4 times faster

Software Development Intern, Avalon Holographics – St. John's, NL — Sep 2023 – Dec 2023

- Designed and implemented a user responsive map scale and compass in a 3D battle-space simulation desktop application by monitoring the camera's height and viewing direction relative to the Earth's surface using C++
- Implemented brightness, contrast and exposure controls for holographic displays by modifying RGB values during ray tracing according to user input using HLSL & C++, providing a customizable viewing experience
- Implemented persistent settings using TOML config files to reload users' previous settings on start-up
- Debugged and fixed 15 reported issues related to GUIs, rendering, and user controls using C++

Network Specialist Student, Bell Canada – St. John's, NL — Jan 2023 – Apr 2023

- Created a script to sort over 300 000 home addresses in rural communities across Newfoundland for fibre optic expansion programs using VBA for Excel
- Upgraded a Microsoft Access database to be compatible with both 64-bit and 32-bit operating systems, minimizing work interruptions for over 50 employees while new laptops were being distributed
- Automated data entry for an SQL database using VBA, eliminating manual entry, saving employees 2 hours of work each week

Project Management Student, The Cahill Group – St. John's, NL — May 2022 – Aug 2022

- Coordinated the ordering and delivery of tools and materials to construction sites across Newfoundland and Labrador by managing material inventories and maintaining regular communication with site workers and suppliers
- Ensured compliance with safety standards by reviewing safety documents and conducting on-site safety walkthroughs for five projects in the St. John's area

Skills

Programming languages: C++, C, C#, Python, Java, JavaScript, CSS, HTML, VBA, SQL

Libraries & frameworks: React, Leaflet, Plotly.Js, ImGui, OpenGl Mathematics, ROS2, ROS, QT

Tools: Git, Github, AWS, Azure, Jira, Jenkins, Asana, Gazebo, RViz

Education

Memorial University of Newfoundland, Computer Engineering Co-op Program — Sep 2021 – May 2026

- **GPA:** 3.93/4.0, Dean's List 2021-2022 & 2023-2024
- **Relevant courses:** Data Structures, Algorithms, Digital Logic, Linear Algebra, Software Design, Visual Computing

Involvement

Tutor, MUN Engineering One Success Centre — Sep 2022 - Present

- Mentoring first year engineering students by assisting them with their programming (Python), math and physics assignments

Mentor, Dell Technologies - Girls Who Game — Sep 2023 - Present

- Helping young girls across North America engage with STEM through gaming initiatives