

# BRIANNA McDONALD

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## EDUCATION

### Memorial University of Newfoundland

*Bachelor of Science (Honours) in Computer Science*

GPA: 4.0/4.0

Sept. 2018 – April 2023

*St. John's, NL*

## EXPERIENCE

### Research Software Developer

*Virtual Marine*

May 2023 – Present

*Paradise, NL*

- Led research projects focused on enhancing the capabilities of marine simulators using machine learning.
- Designed and developed a decision support system using Python and PostgreSQL that integrates data from marine training simulators and weather forecasts to provide data-driven insights and advanced data visualizations.
- Built a C++ library allowing seamless use of any off-the-shelf USB controller with training software.

### Embedded Software Developer

*Mysa*

May 2022 – Aug. 2022

*St. John's, NL*

- Optimized storage by creating a zlib-based data compression library in C to be used in smart thermostat firmware.
- Scripted automated tests using AWS CLI and migrated software testing workflows from Circle CI to GitHub Actions.

### Software Developer

*Compusult Ltd.*

May 2021 – April 2022

*Mount Pearl, NL*

- Developed the award-winning MVP for the Parkinson's Remote Interactive Monitoring System (PRIMS) in a team of 2, which helped a medical technology startup raise \$200,000+ in funding.
- Worked extensively with depth-sensing cameras and hand, face, and body-tracking software.
- Contributed to the development of a climate emergency response system operated by the Canadian federal government that uses React, Node.js, and AWS to provide geospatial data on natural disasters in real time.

### Web Developer

*NL Eats*

June 2020 – Jan. 2021

*St. John's, NL*

- Implemented the front-end of an inventory management website using React with a team of 10+ members.
- Performed code reviews, testing, and debugging of colleagues' code to improve code quality and reliability.

## PROJECTS

### Portfolio Website | [Link](#)

- Showcases the projects listed here as well as the full list of my other projects that further display my skills.

### Parkinson's Remote Interactive Monitoring System (PRIMS) | [Link](#)

- A system that patients can use at home to monitor Parkinson's disease symptoms, utilizing custom algorithms that automatically rate the severity of symptoms present during exercises performed in front of depth-sensing cameras.
- Developed the fully functional MVP in a team of 2 using JavaFX, SQLite, and Python.

### SmartVR Pointer: Using Smartphones and Gaze Orientation for Selection and Navigation in Virtual Reality | [Link](#)

- Implemented a technique that allows the user to interact with objects within virtual reality (VR) using touch screen and tilt controls on their smartphone, along with two demo applications, using Unity and C#.

## TECHNICAL SKILLS

<b>Languages:</b>	Python, JavaScript, C++, C#, C, Java, SQL, HTML/CSS, Bash
<b>Frameworks:</b>	React, Node.js, Redux, Django, Material-UI, Bootstrap, Tailwind
<b>Libraries:</b>	Pandas, NumPy, Matplotlib, TensorFlow, PyTorch, Scikit-learn, OpenCV
<b>Other Tools:</b>	Git, AWS, Unity, Jupyter, Figma, PostgreSQL, MongoDB, SQLite, Vagrant

## HONOURS & AWARDS

<i>Science Co-op Student of the Year Award – Memorial University of Newfoundland</i>	2022
<i>Best Talk in the "Innovation, Technology, and Exploration" Category (Undergrad) – SEA Conference</i>	2022
<i>Dean of Science Book Prize for Computer Science – Memorial University of Newfoundland</i>	2021
<i>2nd Place Winner – Hack Frost NL Hackathon</i>	2021
<i>Dean's List – Memorial University of Newfoundland</i>	2023 & 2020 & 2019