Dion Barja

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EDUCATION

Bachelor of Computer Science Honours (Co-op Option) — Sept. 2022 – Present
University of Mantioba — *Winnipeg, MB*
- Cumulative GPA: 4.5/4.5

AWARDS

NSERC Undergraduate Student Research Award	2024
Isbister Scholarship in Science	2024
U of M Retention Scholarship	2023-2024
President's Scholarship	2022-2024
UM Queen Elizabeth II Entrance Scholarship	2022

EXPERIENCE

Teaching Assistant (Computer Science Help Center) — Sept. 2023 – Present
University of Manitoba, Department of Computer Science — *Winnipeg, MB*
- Conducted weekly tutoring sessions for approximately 15 students, with an emphasis on Java and Python.
- Communicated student progress and challenges to instructors efficiently, providing feedback on assignments.

Research Assistant — May 2024 – Aug. 2024
University of Manitoba, Human-Computer Interaction Lab — *Winnipeg, MB*
- Built force feedback haptic gloves with precise soldering, wiring, and 3D modeling/printing, offering more natural motions compared to traditional VR controllers.
- Programmed haptic gloves using an ESP32 microcontroller and the Arduino IDE to enable the gloves to capture and control finger movements.
- Created experiences in Unity to compare various controllers and implementations for throwing in virtual reality, analyzing their accuracy and precision.
- Designed an experiment, in collaboration with a graduate student, to evaluate the viability of throwing in virtual reality using optical hand tracking.

Cashier — Feb. 2022 – Aug. 2022
Flying Squirrel Sports — *Winnipeg, MB*
- Processed transactions in cash, credit cards, and other forms of payment efficiently and with minimal errors.
- Provided exceptional customer service by promptly addressing inquiries, resolving concerns, and maintaining a welcoming atmosphere.

TECHNICAL SKILLS

Languages: Java, Python, C, C++, C#, JavaScript, R, HTML/CSS
Frameworks/Libraries: Arduino, Vue, React, Node.js
Developer Tools: Git, Github, Visual Studio Code, Firebase, Unity, Arduino IDE

PROJECTS

Deer Run — May 2024
- Created an arcade-style virtual reality Unity game using the OpenXR framework.
- Implemented enemy movement and player combat scripts in C#.

Hackathon Study App — Feb. 2023
- Developed a study logging app using JavaScript and Vue, managing team contributions via GitHub.

VOLUNTEERING

UMSAE Formula Electric — Oct. 2022 – Oct. 2024
- Designed the user interface for the team's sponsorship database using Vue, effectively displaying data for more than 20 sponsors.
- Wrote methods for storing data in the team's sponsorship database using Firebase.
- Contributed to the team's new telemetry user interface using React.