

# JAYDEN METCALFE

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## EDUCATION:

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### Bachelor of Arts and Science, Cognitive Science

August 2020 - April 2024

*McGill University, Montréal QC, Canada*

- Neuroscience stream, Minor in Computer Science

Relevant Coursework: Algorithms & Data Structures, Python, Java & OOP, Probability, Software Systems, Computational Linguistics, Discrete Structures, Applied Machine Learning, Natural Language to Data Science, Linear Algebra, Deductive Logic

## TECHNICAL SKILLS:

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**Languages:** Python, Java, C, Bash (Linux), HTML, CSS, JavaScript, TypeScript, Clojure

**Frameworks, Tools & Libraries:** Git, Node.js, Express.js, Angular, React, PostgreSQL, Arduino, Docker, Kubernetes, scikit-learn, Keras/TensorFlow, FastAPI, numpy, Pandas, matplotlib

## WORK EXPERIENCE:

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### U16 Alpine Ski Racing Coach & Software Developer

November 2024 - present

*Whistler Mountain Ski Club, Whistler BC*

- Collaborating with a team of 6 coaches to improve the technical and tactical alpine ski racing skills of 40+ athletes while implementing best practices for injury prevention and risk management during training sessions
- Leading end-to-end development of a full-stack web application with secure OAuth authentication using React, PostgreSQL, Node.js, Express, TypeScript and Python, allowing coaches to log and analyze training data with filters and comparative metrics in order to adapt the program for increased athlete success, and present athletes with personalized performance insights

### Reinforcement Learning Researcher

August 2023 - May 2024

*The Britt Lab, Montréal QC*

- Research project studying how the dorsomedial striatum plays a role in flexible decision-making in mice
- Engineered Python and Excel programs to analyze and represent data from daily tasks using graphs and Q-learning models
- Debugged and adapted Arduino code to scope for multiple experimental stages, each with variables that required fine tuning to maximize the collection of usable data points

### Product Research, Design, and Development Intern

May - August 2023

*Interac Corp., Toronto ON*

- Identified a gap in the E-transfer market, then developed and integrated a product comprising an API and PostgreSQL database with the goal of protecting users from fraud, and demoed the solution to upper management
- Collaborated with UI/UX designers to create individualized designs and implement new features for tools used to present new products to major financial institutions using Typescript, Angular, and an MVC architecture

## PERSONAL PROJECTS:

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### FIS Race Points Calculator

- Developed a tool that allows ski racers to calculate their scores instantly, reducing wait times from hours to seconds, by using Express to handle API requests and retrieve data from the most frequently used live timing website in North America to account for the majority of races of interest
- Interpreted and calculated raw data using a Python backend that spawned a Node.js subprocess, and displayed results through a dynamic front-end built with HTML, CSS and JavaScript to create a straightforward user experience

### Spot It

- Built a player vs computer version of the popular card game using JavaScript and Node.js

## EXTRACURRICULARS:

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### McGill Varsity Alpine Ski Team

September 2020 - May 2023

- Team Captain and Varsity Council Team Representative
- Balanced a full university course load while training and competing five days a week

### TEAM Mentor

January 2022 - April 2022

- Received the Tomlinson Engagement Award for Mentoring for PHYS102: Electromagnetism & Optics
- Led a group of 15 students in weekly tutorials