

COLE BRADLEY

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EDUCATION

McGill University

September 2019 - April 2024

Major in Honours Mechanical Engineering, Minor in Computer Science

CGPA: 3.9/4.0

Thesis topic: C++ High Order Discontinuous Galerkin methods for Caradonna-Tung rotor.

Coursework: Optimization, Probability, Statistics and Machine Learning, Numerical Methods, Algorithms and Data Structures, Partial Differential Equations

WORK EXPERIENCE

Computational Aerodynamics Research Assistant

May 2023 - August 2023

McGill University

Montreal, QC

- Developing and implementing in C++ High Order Discontinuous Galerkin methods with hp-adaptivity specialized for hovering rotor cases in the research groups open source CFD library [PHiLiP](#).
- Optimizing code by simulating flow conditions on HPC clusters and analyzing their orders of convergence and numerical stability.

Mathematics Teaching Assistant

January 2022 - December 2022

McGill University

Montreal, QC

- Teaching Assistant for Partial Differential Equations & Linear Algebra (Fall 2022), Ordinary Differential Equations (Winter 2022), and Multivariable Calculus (Winter 2022).
- Developed lesson plans and practice problems for conducting weekly tutorials to 50+ students.
- Hosted individual office hours to assist students with questions about the course content and framed practice problems in different ways to better communicate the questions at hand.

Project Engineering Intern

May 2022 - August 2022

Canadian Natural Resources Limited

Horizon Oil Sands, AB

- Learned and applied various Project Management techniques such as earned value analysis for a major downstream project developing a VDU Heater with a budget of \$240 M.
- Conducted Quantity Surveying on-site to confirm contractors are meeting deadlines, ensuring the project schedule and budget are respected. Data verification saved the project over \$50k.

Technical Safety Engineering Intern

May 2021 - August 2021

Canadian Natural Resources Limited

Calgary, AB

- Tiered process safety incidents in Maximo by computing their severity rank & determining root causes.
- Participated in PHA's for conventional facilities to help identify risks and consequences and how they can be mitigated for new designs and changes to existing process infrastructure.

PROJECTS

C++ Blackjack Game

- Developed in C++ a command line [game](#) to play classic blackjack with a dealer and up to 3 players.
- The game is rigged so that overtime the house will win > 50% of hands.

LEADERSHIP EXPERIENCE

VP External

May 2022 - April 2023

National Organization for Business & Engineering: McGill Chapter

- Built relationships with various finance and consulting companies to plan and execute multiple networking events that hosted more than 300 McGill students and 50 professionals from over 20 different companies.

SKILLS

Technologies

C++, Python, SQL, OCaml, Java, C, Bash, MATLAB,