

Brandon Barton

1485 Quaker St Golden, CO 80401, USA • (720) 837-3047 • brandonbarton@mines.edu • brandon-barton.com

Education

COLORADO SCHOOL OF MINES GPA: 4.0

Golden, CO

Master's of Science in Computational and Applied Mathematics

Expected May 2023

Certificate in Quantum Engineering

Relevant courses: Linear vector spaces, Hilbert spaces and mathematics of quantum information theory, Numerical solutions to PDEs, Quantum programming.

COLORADO SCHOOL OF MINES GPA: 3.62

Golden, CO

Bachelor's of Science in Computer Science, *cum laude*

2020-2022

Relevant courses: Algorithms, Operating systems, Programming languages, Quantum information

Machine learning, Mathematical & computational neuroscience, Graph analysis and network science.

CASE WESTERN RESERVE UNIVERSITY GPA: 3.63

Cleveland, OH

Committed 25 hours per week to varsity wrestling

2018-2020

Experience

MINES APPLIED MATHEMATICS AND STATISTICS

Golden, CO

Graduate Research Assistant

May 2022- Present

Informed the design of future quantum technology for simulating open quantum systems on near-term NISQ hardware. Explored the emergence of self-organization in networks of quantum harmonic oscillators, and coherence in dissipative quantum systems. Co-advised by Dr. Cecilia Diniz Behn and Dr. Lincoln Carr in the Applied Mathematics and Statistics department.

MINES APPLIED MATHEMATICS AND STATISTICS, DINIZ BEHN GROUP

Golden, CO

Undergraduate Research Assistant

August 2021 – May 2022

Conducted analysis on temporal C. elegans neuronal network experimental data, and characterized theoretical models of neuron development models. Devised novel methods of random graph generation in NetworkX, an open source software package for network science and graph analysis.

MIRRORLab at Mines

Golden, CO

Undergraduate Research Assistant

November 2020 – July 2021

Investigated the effects of robotic cognitive architecture design on human-robot interaction.

Adapted a human-subject experiment to an online format during the Covid-19 pandemic. Authored submission to ACM/IEEE International Conference on Human Robot Interaction with collaborators from University of Florida in Google Explore Computer Science Research (CSR) program.

Leadership

Networks Journal Club

Golden, CO

Student Director

Aug 2021 – Present

- Initiated, and organized networks journal club with faculty and students from Applied Math and Statistics, Computer Science, Quantum Engineering departments.
- Provided relevant literature in network science for discussion and debate.

Case Western Reserve University

Cleveland, OH

Varsity Wrestling

2018 – 2020

- Competed in Sardegna, Italy at international freestyle wrestling tournament.
- Awards: All UAA Academic Honors 2018 – 2020.

Skills & Interests

Programming: C/C++, Python, Java, MATLAB, Cirq, Qiskit, OCaml

Software: Git, Linux OS

Language: English (Native proficiency), French (beginner)

Interests: Rock climbing, Brazilian Jiu Jitsu