

Caleb G Rotello

GRADUATE STUDENT, QUANTUM ENGINEERING

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Education

Colorado School of Mines

M.S. IN QUANTUM ENGINEERING

- Advisor: Dr. Eliot Kapit

Golden, Colorado

May 2021 - Present

Colorado School of Mines

B.S. IN COMPUTER SCIENCE

- Major GPA: 4.0, Overall: 3.79
- Dean's List

Golden, Colorado

Aug. 2018 - May 2021

Work Experience

Quantum Computing Error Mitigation Intern and Graduate Research Assistant

NREL AND COLORADO SCHOOL OF MINES

- Discovered a formula to identify symmetry protected subspaces for error mitigation
- Submitted code to Google's Sycamore Processor
- Collaborated with researchers across disciplines
- Implemented novel quantum optimization algorithms

Golden, Colorado

Sep. 2021 - Present

Research & Development Software Intern

ARCHERDX/INVITAE

- Wrote and implemented novel algorithms to efficiently detect DNA sample errors
- Created analysis code for research on acute myeloid leukemia
- Implemented software to pair RNA alpha and beta sequences across multiple cells
- Contributed to AMP Chemistry analysis software for cancer genomics
- Refactored Python and C++ code

Boulder, Colorado

May 2020 - Jul. 2020

Health & Wellness App Developer

CONTRACTING WITH COUNTY POLICE DEPARTMENTS

- App development in XCode
- Wrote secure custom API calls to AWS Lambda
- Developed application backend to securely handle personal information
- Worked with non-technical professionals to determine development goals

Denver, Colorado

Jun. 2019 - Dec. 2019

Technical Skills

Programming Languages/Tools Cirq, C++, Python

Relevant Coursework Quantum Programming / Many-Body Physics, Algorithms, Math Methods for Physics

Labwork 7K Cryostat, SQUID, Clean Room, Photolithography, Al Evaporation, VNA Calibration & Measurement

Extracurriculars

2017 **Eagle Scout**, Boy Scouts of America

Troop 794

2022 **Poetry Editor**, High Grade

Colorado School of
Mines

2021-22 **Vice President**, Creative Writing Club

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Mines

2020 **Fourth Best Overall Hack**, Association for Computing Machinery

Hack CU VI

2019 **Semi-Finalist**, NASA RASC-AL

Colorado School of
Mines