Reece Robertson

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EDUCATION

PhD, Computer Science **May 2027**
University of Maryland, Baltimore County *Baltimore, Maryland*
- Dissertation: *Quantum Anti-Fragility: Case Studies in Error-Assisted Quantum Algorithms*
- UMBC Cyber Security Graduate Fellow
- UMBC Quantum Science Institute Affiliated Graduate Fellow
- Advisor: Dr. Sebastian Deffner

MS, Computer Science **December 2024**
University of Maryland, Baltimore County *Baltimore, Maryland*
- GPA: 3.94

BS, Applied and Computational Mathematics Emphasis (ACME) **April 2022**
Brigham Young University *Provo, Utah*
- Minor: Computer Science
- Honors Program
- GPA: 3.93

PUBLICATIONS & PRESENTATIONS

UMBC Combined Quantum Thermodynamics & Quantum Computation Research Symposium **October 2024**
Organizer & Presenter

Introducing UNIQuE: The Unconventional Noiseless Intermediate Quantum Emulator **September 2024**
Refinement and republication of *Implementing a High-Performance Quantum Computing Emulator*
Reece Robertson & Dan Ventura
arXiv:2409.07000

Simon's algorithm in the NISQ cloud **August 2024**
Reece Robertson, Emery Doucet, Ernest Spicer, Sebastian Deffner
Presented at Quantum Theromodynamics Conference 2024
arXiv:2406.11771

On the Baltimore Light RailLink into the quantum future **August 2024**
Krzysztof Domino, Emery Doucet, Reece Robertson, Bartlomiej Gardas, and Sebastian Deffner
arXiv:2406.11268

Qubit by Qubit High School Summer Program **July 2024**
Instructor

Implementing a High-Performance Quantum Computing Emulator **May 2022**
Reece Robertson
BYU Undergraduate Honors Thesis 218

EXPERIENCE

Quantum Computing Engineer, Specialist **May 2021–Present**
KBR *Chantilly, Virginia*
- Developing software tool for hardware–aware quantum algorithm compilation and resource estimation
- Implementing Qiskit (Python) quantum algorithms on 10+ hardware platforms for practical applications
- Presenting weekly on emerging quantum algorithm and quantum error correction research
- Tied for first place and earned advanced distinction in all 2021–2024 IBM Quantum Challenges

Quantum Computing, Coding Theory, & Software Development Teaching Assistant **August 2022–December 2024**
University of Maryland, Baltimore County *Baltimore, Maryland*
- Mentoring 300+ graduate and upper–class undergraduate students in the listed topics
- Writing course material and grading weekly assignments

Algorithm Design Lab Teaching Assistant **August 2021–December 2021**
BYU Department of Mathematics *Provo, Utah*
- Taught 90+ undergraduates in python programming and essential programming concepts
- Enabled students to effectively write and debug code for 8 hours per week

Undergraduate Researcher in Quantum Field Theory **July 2020–May 2021**
BYU Department of Mathematics *Provo, Utah*
- Studied interaction of elementary particles in square potential well using partial differential equations