Travis L Scholten

Website LinkedIn Twitter Email Github

EDUCATION

University of New Mexico
PH D PHYSICS
2012 August - 2018 September
MS PHYSICS
2015 June

California Institute of Technology
BS PHYSICS
2008 August - 2012 June

ASSOCIATIONS

2019-present: IEEE
2015-present: American Physical Society

OTHER EXPERIENCE

2022 - present: Board of Directors, Unitary Fund
2020 - present: Advisory Board member, Unitary Fund
2021: Co-organizer, Open Quantum Hardware Workshop @QCE21
2020: Lead organizer, Quantum Software Workshop @QCE20

SKILLS

Programming
Python • numpy •pandas
git/GitHub • Jupyter notebook •
seaborn • Airtable

Communication
25 talks • 3 posters• 2 podcasts • 2 panels
Invited speaker IQT 2019
2020 IEEE Quantum podcast
Quantum Computing Now podcast

AWARDS

2017: Brian E Colón Exemplary Service Award: UNM GPSA
2016: Excellence in Ethics Award UNM GPSA

EXPERIENCE

IBM Quantum | Quantum Applications Architect
2021 August - present | Yorktown Heights, NY

Quantum Computing Applications Researcher
2018 October - 2021 July | Yorktown Heights, NY
Work with startups and industry partners in the IBM Quantum Network on joint research and development and other technical projects.

- Completed 2 research projects with IBM Quantum Startup Program members & 1 Quantum Network Partner
- Presented 20+ technical talks to C-suite and technical audience

Sandia National Laboratories | Student Intern
2013 May - 2018 September | Albuquerque, NM
PhD research in quantum characterization, verification, and validation specializing in model selection, hypothesis testing, and machine learning techniques.

University of New Mexico | Teaching Assistant, Physics & Astronomy
2012 August - 2013 May | Albuquerque, NM
Taught undergraduate labs and helped with a graduate level course.

California Institute of Technology | Summer Undergraduate Research Fellow
2011 June - 2011 September | Pasadena, CA
Research project on adiabatic quantum computation.

PUBLICATIONS

Google Scholar Page

6. **Kernel Matrix Completion for Offline Quantum-Enhanced Machine Learning**. Annie Naveh, Imogen Fitzgerald, Anna Phan, Andrew Lockwood, & Travis L. Scholten. *arXiv* 2112.08449

5. **Analyzing the Performance of Variational Quantum Factoring on a Superconducting Quantum Processor**. Amir H. Karamlou, William A. Simon, Amara Katabarwa, Travis L. Scholten, Borja Peropadre, & Yudong Cao. npj Quantum Inf **7**, 156 (2021)

4. **Gate Set Tomography**. Erik Nielsen, John King Gamble, Kenneth Rudinger, Travis L. Scholten, Kevin Young, & Robin Blume-Kohout. *Quantum* **5** 557

3. **Application-Motivated, Holistic Benchmarking of a Full Quantum Computing Stack**. Daniel Mills, Seyon Sivarajah, Travis L. Scholten, & Ross Duncan. *Quantum* **5** 415

2. **Classifying Single-Qubit Noise Using Machine Learning**. Travis L. Scholten, Yi-Kai Liu, Kevin Young, & Robin Blume-Kohout. *arXiv* 1908.11762

Towards Scalable Characterization of Noisy, Intermediate-Scale Quantum Information Processors. Travis L. Scholten. PhD thesis; available via UNM Digital Repository

1. **Behavior of the Maximum Likelihood in Quantum State Tomography**. Travis L. Scholten & Robin Blume-Kohout. *New Journal of Physics* **20** 023050