

Stanford



Jacob Marks

Ph.D. Student in Physics, admitted Autumn 2017

Bio

BIO

Jacob Marks is first year grad student in Stanford's Physics PhD program, where he conducts research under Dr. Thomas Devereaux on theoretical and computational methods for simulating quantum many-body systems. In particular, his current research focuses on tensor networks. In 2017 he received his B.S. Cum Laude in Intensive Physics, and Mathematics & Philosophy from Yale with distinction in both majors. He has conducted research at CERN, the Institute for Quantum Computing in Waterloo Canada, and the Yale Quantum Institute. In addition, he has done computer vision work as an Imaging Engineer at JointPoint, interned as a Software Engineer at Reservoir Labs, and served as an Algorithms R&D Intern at Wolfram Research.

His main research interests include quantum information, condensed matter theory, and cognitive computing. In his free time, Jacob loves to play basketball, rock climb, and play acoustic guitar.

HONORS AND AWARDS

- Cum Laude, Yale University (2017)
- Howard L. Schultz Award, Department of Physics, Yale University (2017)
- Honorable Mention, Goldwater Foundation (2016)
- Richter Fellow, Yale University (2016)
- Undergraduate Research Award, Institute for Quantum Computing, University of Waterloo (2016)
- Silver Medal, International University Physics Competition (2015)
- Tetelman Research Fellow, Yale University (2014)

EDUCATION AND CERTIFICATIONS

- B.S., Yale University , Intensive Physics, Mathematics and Philosophy (2017)

LINKS

- Personal Site: <http://www.silhouetteofscience.com/>
- LinkedIn: <https://www.linkedin.com/in/jacob-marks>
- GitHub: <https://github.com/jacobmarks/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Numerical techniques for simulating quantum many-body systems, including applications of and improvements to Density Matrix Renormalization Group (DMRG).

Publications

PUBLICATIONS

- **Comparison of memory thresholds for planar qudit geometries** *New Journal of Physics*
Marks, J. A., Jochym-O'Connor, T., Gheorghiu, V.
2017; 19 (113001-119502)