Vishnu Iyer

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Education

University of Texas at Austin *August 2021 - present*
PhD program in Computer Science, advised by Scott Aaronson

University of California at Berkeley *August 2016 - May 2020*
B.S. in Electrical Engineering and Computer Science with Highest Honors ($\sim$ top 3%)

Experience

Long Term Visitor, Simons Institute Program for Quantum Information *Spring 2024*
Summer Research Intern, Sandia National Labs *May 2023 - August 2023*
Research Assistant to Prof. Scott Aaronson (UT Austin) *August 2021 - present*
Research Assistant to Prof. Avishay Tal (UC Berkeley) *April 2020 - August 2021*
Research Assistant to Prof. Prasad Raghavendra (UC Berkeley) *March 2019 - March 2020*

Papers [1]

8. *Pseudoentanglement Ain't Cheap* April 2024
   Sabee Grewal, **Vishnu Iyer**, William Kretschmer, Daniel Liang

7. *QMA with Hidden Variables and Non-Collapsing Measurements* March 2024
   Scott Aaronson, Sabee Grewal, **Vishnu Iyer**, Simon C. Marshall, Ronak Ramachandran

6. *Bounds on the Rational Degree of Boolean Functions with Applications* October 2023
   Vishnu Iyer, Siddhartha Jain, Matt Kovacs-Deak, Vinayak Kumar, Luke Schaeffer, Daochen Wang, Michael Whitmeyer

5. *Efficient Learning of Quantum States Prepared With Few Non-Clifford Gates II: Single Copy Measurements* QIP, January 2024
   Sabee Grewal, **Vishnu Iyer**, William Kretschmer, Daniel Liang

4. *Efficient Learning of Quantum States Prepared With Few Non-Clifford Gates* QIP, January 2024
   Sabee Grewal, **Vishnu Iyer**, William Kretschmer, Daniel Liang

3. *Improved Stabilizer Estimation via Bell Difference Sampling* QIP, January 2024
   Sabee Grewal, **Vishnu Iyer**, William Kretschmer, Daniel Liang

2. *Low-Stabilizer-Complexity Quantum States are not Pseudorandom* ITCS, January 2023
   Sabee Grewal, **Vishnu Iyer**, William Kretschmer, Daniel Liang
   ITCS 2023 Best Student Paper Award

1. *Junta Distance Approximation with Sub-Exponential Queries* CCC, July 2021
   Vishnu Iyer, Avishay Tal, Michael Whitmeyer

[1] all authors listed in alphabetical order by last name

Awards and Honors

Horizon Quantum Hackathon Winner *December 2023*
UT Austin Graduate Dean's Prestigious Fellowship *March 2023*
NSF Graduate Research Fellowship *March 2023*
ITCS Best Student Paper Award *January 2023*
UT Austin Chair's Strategic Fellowship *April 2021*
UC Berkeley University Medal Semifinalist *February 2020*
UC Berkeley Outstanding GSI Award *March 2019*

Teaching

Analysis of Boolean Functions, UT Austin Spring 2023
Quantum Information Science, UT Austin Spring 2022
Algorithms and CS Theory, UT Austin Fall 2021
Algorithms and CS Theory, UC Berkeley Spring 2020
Algorithms and CS Theory, UC Berkeley Fall 2019
Discrete Mathematics and Probability Theory, UC Berkeley Summer 2019
Algorithms and CS Theory, UC Berkeley Spring 2019
Discrete Mathematics and Probability Theory, UC Berkeley Summer 2018

Volunteering and Leadership

Instructor, Texas Prison Education Initiative *August 2022 - December 2022*
Taught mathematics to local prison inmates, free of charge.

President, Eta Kappa Nu, Mu Chapter *May 2019 - December 2019*
President of the Electrical Engineering and Computer Sciece Honors Society at UC Berkeley.

Department Relations, Eta Kappa Nu, Mu Chapter *May 2018 - May 2019*
Executive officer in charge of liaising with the department.

Co-Founder and Contributor, Undergraduate Theoretical CS Club *May 2018 - May 2020*
Organized and held outreach events for theoretical computer science education.

Talks

Learning Beyond Stabilizer States *August 2023*
University of Washington theory lunch.

Learning Beyond Stabilizer States *June 2023*
Sandia National Labs Quantum Algorithms and Applications Collaboratory seminar.

Low-Stabilizer-Complexity Quantum States are not Pseudorandom *January 2023*
Innovations in Theoretical Computer Science (ITCS) 2023.

Low-Stabilizer-Complexity Quantum States are not Pseudorandom *October 2022*
University of Chicago theory lunch.

Junta Distance Approximation with Sub-Exponential Queries *July 2021*
Conference for Computational Complexity (CCC) 2021.