

Justin Yirka

Candidate for B.S. in Computer Science and B.S. in Mathematical Sciences
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Abbreviated Curriculum Vitae

Research Interests

Complexity theory, Algorithms, Quantum Computing, Formal Methods

Education

Bachelor of Science in Computer Science 2014 - 2018
Bachelor of Science in Mathematical Sciences
Dual degree program
Virginia Commonwealth University (VCU)

- Member of Honors College
- Minor in Physics
- GPA: 3.97

Research

Pre-prints

- S. Gharibian and J. Yirka. The complexity of estimating local physical quantities. 2016
Available at <https://arxiv.org/abs/1606.05626>

Research Poster Presentations

- S. Gharibian and J. Yirka. The complexity of estimating local physical quantities.
 - 20th Annual Conference on Quantum Information Processing (QIP 2017) 2017

Networking

- J. Yirka. Evaluation of TCP header fields for data overhead efficiency.
 - 30th National Conference on Undergraduate Research (NCUR 2016) 2016
 - VCU Symposium for Undergraduate Research and Creativity 2015
- Awarded *Launch Award for Outstanding Research Poster*, VCU -

Invited Talks

- Quantum complexity of estimating local physical quantities. 2016
Weekly department seminar, Department of Computer Science, VCU

Research Internships

- Joint Center for Quantum Information and Computer Science, Univ. of Maryland Summer 2017
 - Supervisor: Andrew Childs Childs, Ph.D.
 - Funded by: UMD-CAAR NSF REU (see *Funding and Scholarships*)
- Quantum Computing Lab, Virginia Commonwealth University 2015 - current
 - Supervisor: Sevag Gharibian, Ph.D., Department of Computer Science
 - Topic: Computational complexity of physical problems

Funding and Scholarships

- Presidential Scholarship 2014 - 2018
Virginia Commonwealth University. Approx. \$110,000 USD.
Details: Top scholarship offered. Full cost of 4-year tuition, room, and board.
- NSF Research Experience for Undergraduates (REU) Award 2017
University of Maryland. Approx. \$5,300 USD.
- Travel grant for poster presentation at QIP 2017 2017
VCU Honors College. \$500 USD.
- Travel grant for poster presentation at NCUR 2016 2016
VCU Honors College. Approx. \$550 USD.

Teaching Experience

Teaching Assistant

- Algebra with Applications (MATH 141), Virginia Commonwealth University 2016 – current
Graded assignments, offered weekly help sessions, assisted with in-class assignments.
Details: 1st year mathematics course. Up to 24 students.
- Honors Rhetoric (HONR 200), Honors College, Virginia Commonwealth University 2015
Critiqued student research papers and methods, assisted with in-class assignments.
Details: 1st year honors writing and composition course. 17 students.

Service

University Service

- Member, Student Advisory Board 2016 - current
Department of Computer Science, Virginia Commonwealth University
Details: Advise on student concerns. Participate in faculty hiring interviews.
- Senior Reader, Senior honors graduation dossiers 2016 - current
Honors College, Virginia Commonwealth University
Details: Review dossier submissions for graduation. Coordinate other readers.
- Organizer, Local Hack Day in Richmond, VA at VCU 2016
School of Engineering and RamDev club, Virginia Commonwealth University
Details: Hosted event for over 30 students, including high school students.
- Judge, Launch award for Outstanding Research Poster 2016
VCU Symposium for Undergraduate Research and Creativity

Organization Service

- Founder and President, RamDev – Software Development Club 2016 - current
Virginia Commonwealth University
Details: Plan weekly meetings involving student, faculty, and industry speakers.

Programming Experience

See full C.V. for details.

Familiar with: Java, C++, C, Perl (with NLP applications), Mathematica, Lua, LaTeX