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)
- o Member of Honors College
- o Minor in Physics
- o 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.
  - o 20th Annual Conference on Quantum Information Processing (QIP 2017)   2017

Networking
- J. Yirka. Evaluation of TCP header fields for data overhead efficiency.
  - o 30th National Conference on Undergraduate Research (NCUR 2016)   2016
  - o VCU Symposium for Undergraduate Research and Creativity   2015

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
  - o Supervisor: Andrew Childs Childs, Ph.D.
  - o Funded by: UMD-CAAR NSF REU (see *Funding and Scholarships*)

- Quantum Computing Lab, Virginia Commonwealth University   2015 - current
  - o Supervisor: Sevag Gharibian, Ph.D., Department of Computer Science
  - o Topic: Computational complexity of physical problems

Funding and Scholarships

•	Presidential Scholarship Virginia Commonwealth University. Approx. $110,000 USD. Details: Top scholarship offered. Full cost of 4-year tuition, room, and board.	2014 - 2018
•	NSF Research Experience for Undergraduates (REU) Award University of Maryland. Approx. $5,300 USD.	2017
•	Travel grant for poster presentation at QIP 2017 VCU Honors College. $500 USD.	2017
•	Travel grant for poster presentation at NCUR 2016 VCU Honors College. Approx. $550 USD.	2016
•	Presidential Scholarship (declined) Worcester Polytechnic Institute. Approx. $80,000 USD.	2014
•	Rensselaer Medal Merit Scholarship (declined) Rensselaer Polytechnic Institute. Approx. $100,000 USD.	2014

Teaching Experience

Teaching Assistant

•	Algebra with Applications (MATH 141), Virginia Commonwealth University
	  Graded assignments, offered weekly help sessions, assisted with in-class assignments.
	  Details: 1st year mathematics course. Up to 24 students.
		2016 – current

•	Honors Rhetoric (HONR 200), Honors College, Virginia Commonwealth University
	  Critiqued student research papers and methods, assisted with in-class assignments.
	  Details: 1st year honors writing and composition course. 17 students.
		2015

Instructor

•	Lifeguard, first aid, and management certification classes, Prince William County Department of Parks and Recreation, Woodbridge, VA Details: Planned and managed hands-on classes of up to 40 students.	2016 - current

Student Supervision

Mentor

•	Derek Pham, Virginia Commonwealth University Details: Part of VCU Honors freshman mentorship program.	2016

Awards and Honors

•	Dean's List – seven-time recipient VCU School of Engineering, VCU College of Humanities & Sciences	2014 - 2017
•	VCU Scholar Award Virginia Commonwealth University	2015
•	Launch Award for Outstanding Research Poster VCU Symposium for Undergraduate Research and Creativity	2015

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.

- Volunteer, High School Computer Science Day   2016
  Department of Computer Science, Virginia Commonwealth University

- Judge, Launch award for Outstanding Research Poster   2016
  VCU Symposium for Undergraduate Research and Creativity

- Research Ambassador volunteer   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, including securing funding and involving student, faculty, and industry speakers.