

# Justin Yirka

Candidate for B.S. in Computer Science and B.S. in Mathematical Sciences  
Virginia Commonwealth University, Richmond, VA, USA

Email: YirkaJk@vcu.edu  
Phone: (703) 229-7956  
www.linkedin.com/in/yirkajk



## *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)

- University Honors College candidate
- 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.
  - 20<sup>th</sup> Annual Conference on Quantum Information Processing (QIP 2017) 2017

#### *Networking*

- J. Yirka. Evaluation of TCP header fields for data overhead efficiency.
    - 30<sup>th</sup> 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**

- 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: 1<sup>st</sup> 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: 1<sup>st</sup> 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