

Ray Li

PERSONAL

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EDUCATION

Expected MAY 2022 PhD in COMPUTER SCIENCE, **Stanford University**, Stanford, CA
MAY 2017 M.S. in MATHEMATICAL SCIENCES, **Carnegie Mellon University**, Pittsburgh, PA
Thesis: *New developments in coding against insertions and deletions*
MAY 2017 B.S. in MATHEMATICAL SCIENCES, **Carnegie Mellon University**, Pittsburgh, PA

PUBLICATIONS

5. V. Guruswami and R. Li, *Efficiently decodable codes for the binary deletion channel*, RANDOM 2017.
4. V. Guruswami and R. Li, *Coding against deletions in oblivious and online models*, ACM-SIAM Symposium on Discrete Algorithms 2018 (SODA18).
3. R. Li and S. J. Miller, *A collection of central limit type results in Generalized Zeckendorf Decompositions*, Proceedings of the 17th International Fibonacci Conference.
2. R. Li and S. J. Miller, *Central limit theorems for gaps of Generalized Zeckendorf Decompositions*, submitted to Fibonacci Quarterly. <http://arxiv.org/abs/1606.08110v1.pdf>
1. V. Guruswami and R. Li, *Efficiently decodable insertion/deletion codes for high-noise and high-rate regimes*. In *2016 IEEE International Symposium on Information Theory (ISIT)*, 620-624.

TALKS

3. A collection of central limit type results in Generalized Zeckendorf Decompositions, Young Mathematicians Conference, Columbus, August 19, 2016.
2. Efficiently decodable insertion/deletion codes for high-noise and high-rate regimes, ISIT, Barcelona, July 11, 2016.
1. Convergence rates in generalized Zeckendorf decomposition problems, CANT, New York City, May 26, 2016.

SELECT AWARDS AND HONORS

2017 - 2022 NSF Graduate Research Fellowship Program (NSF GRFP)
2013 - 2017 Knaster McWilliams Scholarship, full tuition merit scholarship
2015 Putnam N1 (Top 16)
2013 ACM ICPC Regional Competition 3rd place
2013 Virginia Tech Regional Math Competition Tied 1st Place
2013 Hack CMU Winner (Top 4)
2013 International Math Olympiad (IMO) Silver Medal
2012, 2013 USA International Olympiad in Informatics (IOI) team candidate (Top 8)

WORK EXPERIENCE

- MAY 2016-AUG 2017 | Research Assistant at CARNEGIE MELLON UNIVERSITY
Work with Venkatesan Guruswami on Insertion and Deletion Codes
- MAY-JULY 2015 | Assistant Trading Intern at JANE STREET CAPITAL LLC, New York, NY
- JAN 2014-MAR 2015 | CTO at EXP11 INC., Pittsburgh, PA
Conceived and grew a crowdsourced ed-tech startup through a ten-person team, a 1.3M seed round, and over a thousand users. Built and led the engineering team from day 0.

TEACHING EXPERIENCE

- 2017 | Instructor at MATH OLYMPIAD SUMMER PROGRAM, Pittsburgh, PA
- 2015 | Teaching Assistant at CARNEGIE MELLON UNIVERSITY
21-127, Concepts of Mathematics
- 2014 | Junior Counselor at SUMMER PROGRAM ON APPLIED RATIONALITY AND COGNITION, Berkeley, CA
- 2012, 2014 | Instructor at IDEAMATH, Santa Clara, CA, Boston, MA, Pittsburgh, PA
Taught three two-week math enrichment programs. Designed handouts and quizzes, taught 6 hours of class a day, and organized recreational activities and study sessions.
- 2014 | Grader at MATH OLYMPIAD SUMMER PROGRAM, Pittsburgh, PA
Graded papers and mentored students at training camp for USA International Math Olympiad Team.

SERVICE

- Refereed papers in IEEE Transactions on Molecular, Biological, and Multi-scale Communications (2016) and Journal of Number Theory (2016).
- Mathscinet reviewer (2016).
- USA Math Olympiad Grader (2014).
- After-school Volunteer at The Pittsburgh Project. Tutor and mentor K-5 students several hours a week with community development organization.
- Online Math Open Co-founder and Co-director (2012-3); Conceived and launched an online math competition that grew to over 600 students from over 10 countries.

PROGRAMMING SKILLS

C++, Python, Latex, Mathematica, Excel, Unix, Git, SML, PHP, VBA, HTML/CSS, Javascript, mySQL, Java, AWS, Node.js, Backbone.js, React.js, nginx

EXTRACURRICULARS

- Asian Christian Fellowship; Small group leader.
- Philly Missions spring break urban missions trip; Co-leader.
- Sports: Squash, Long distance running, Breakdancing.