Zeyu Guo

Graduate Student

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Education

2014.6–present **Ph.D. Candidate**, *Computing and Mathematical Sciences Department, California Institute of Technology*.
GPA: 4.1
Expected graduation date: 2017.6

2010.9–2014.6 **Master of Science**, *Computing and Mathematical Sciences Department, California Institute of Technology*.

2006.9–2010.6 **Bachelor of Science**, *School of Computer Science, Fudan University*.

Research Interests

Computational Complexity, Pseudorandomness, Algebraic Methods in Theoretical Computer Science

Advisor

Chris Umans
Professor of Computer Science, California Institute of Technology

Research Experience

2010.9–present **Research Assistant**, *California Institute of Technology*.
Advisor: Professor Chris Umans

2012.8–2012.9 **Visiting student**, *Max Planck Institute for Computer Science*.

2013.8–2012.9 **Visiting student**, *Max Planck Institute for Computer Science*.

2008.9-2009.1 **Exchange Student**, *The University of Hong Kong*.
Advisor: Professor Francis Y. L. Chin

2007.3-2008.9 **Research Assistant**, *Fudan University*.
Advisor: Professor Hong Zhu

Teaching Experience

2014 Spring **Head Teaching Assistant**, *Introduction to Algorithms, Caltech CS38*.

2013 Spring **Teaching Assistant**, *Complexity Theory, Caltech CS151*.

2012 Winter **Teaching Assistant**, *Computer Algorithms, Caltech CS138*.

Publications

• **Zeyu Guo**, Anand Kumar Narayanan and Chris Umans. Algebraic Problems equivalent to beating the 3/2 exponent in Polynomial Factorization over Finite Fields. In *Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS)*, pages 47:1–47:14, 2016.

• **Zeyu Guo** and He Sun. Gossip vs. Markov Chains, and Randomness-Efficient Rumor Spreading. In *Proceedings of the 26th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 411-430, 2015.

• **Zeyu Guo**. Randomness-Efficient Curve Samplers, In *Proceedings of the 17th International Workshop on Randomization and Computation (RANDOM)*, pages 575-590, 2013.

• Francis Y. L. Chin, **Zeyu Guo** and He Sun. Minimum Manhattan Network is NP-Complete, In *Proceedings of the 25th Annual Symposium on Computational Geometry (SCG)*, pages 393-402, 2009. Journal version in *Discrete and Computational Geometry* 45(4): 701-722, 2011.

• **Zeyu Guo**, He Sun and Hong Zhu. Greedy Construction of 2-Approximation Minimum Manhattan Network, In *Proceedings of the 19th International Symposium on Algorithms and Computation (ISAAC)*, LNCS 5369, pages 4-15, 2008. Journal version in *International Journal of Computational Geometry and Applications* 21(3): 331-350, 2011.

• **Zeyu Guo**, He Sun and Hong Zhu. A Fast 2-Approximation Algorithm for the Minimum Manhattan Network Problem, In *Proceedings of the 4th International Conference on Algorithmic Aspects in Information and Management (AAIM)*, LNCS 5034, pages 212-223, 2008.

Presentations

2016.8 *The 41st International Symposium on Mathematical Foundations of Computer Science*, Krakow, Poland.

2015.7 *The 12th International Conference on Finite Fields and Their Applications*, Saratoga Springs, USA.

2015.1 *The 26th ACM-SIAM Symposium on Discrete Algorithms*, San Diego, USA.

2013.8 *China Theory Week*, Aarhus University, Denmark.

2012.8 Max Planck Institute for Informatics, Saarbrücken, Germany

2009.6 *The 25th Annual Symposium on Computational Geometry*, Aarhus University, Denmark.

2009.4 *The 2nd Annual Meeting of Asian Association for Algorithms and Computation*, Zhejiang University, China.

2008.6 *The 4th International Conference on Algorithmic Aspects in Information and Management*, Fudan University, China.

2008.4 *The 1st Annual Meeting of Asian Association for Algorithms and Computation*, The University of Hong Kong, China.

Selected Honors

2013 **Invited to participate in China Theory Week**.
Approximately 25-30 students are invited each year

2009 **President's Medal of Fudan University**.
Awarded to only two undergraduates in 2009 as the highest honor of Fudan University

2009 **Wangdao Scholar**.
Sponsored by Fudan Undergraduate Research Opportunities Program

2009 **National Scholarship**.
Awarded to the top one student in the class for the overall performance

2008 **Chun-Tsung Scholar**.
Sponsored by Chun-Tsung Undergraduate Research Endowment, which was established by Professor Tsung-Dao Lee

2005 **Bronze Medal**, National Olympiad in Informatics.

Service to the community

- Referee for: Theory of Computing, STOC 2014, COCOON 2013

Computer Skills

programming	C/C++, Pascal, Java
OS	Windows, Linux
typography	LaTeX
Mathematical software	SAGE, GAP, Mathematica, Matlab