

ZHIYI HUANG

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ADDRESS

3330 Walnut Street, GRW 561
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EDUCATION

University of Pennsylvania Sep. 2008 – present

Ph.D. Candidate, Computer and Information Science

Research advisor: Professor Sampath Kannan

Research interests: algorithmic game theory, differential privacy, approximation algorithms

Tsinghua University Aug. 2004 – Jul. 2008

Bachelor of Engineering, Computer Science and Technology

Member of *special pilot CS class*: under Professor Andrew Yao in Institute for Theoretical Computer Science, co-advised by Wei Chen et al. in Microsoft Research Asia.

SELECTED HONORS

<i>Doctoral Fellowship</i> , University of Pennsylvania	2008 onwards
<i>Excellent Bachelor Thesis</i> , Tsinghua University	2008
<i>Sohu Scholarship</i> , Tsinghua University	2007
<i>Scholarship for Academic Excellency</i> , Tsinghua University	2006
<i>Xianglu Scholarship</i> , Tsinghua University	2005
<i>Yukang Zhou Scholarship</i> , Tsinghua University	2004
Gold Medal , 5 th place in International Mathematical Olympiad, Athens, Greece	2004
<i>Silver Medal</i> , 3 rd place in All-Russian Mathematical Olympiad, Cheboksary, Russia	2004
<i>Gold Medal</i> , 1 st place in Chinese Mathematical Olympiad, Macau, China	2004
<i>First Prize</i> per year, national competition of mathematics	2001 – 2003
<i>Various Prizes</i> , regional competitions of mathematics and programming	1994 – 2003

PROFESSIONAL EXPERIENCE

Microsoft Research, Redmond Summer 2011

Research Intern

Research on problems in auction theory and online algorithms.

Host: Nikhil R. Devanur

PUBLICATIONS

- [1] Algorithms for the generalized sorting problem
Zhiyi Huang, Sampath Kannan, and Sanjeev Khanna
In *Proceedings of the Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, 2011.
- [2] Bayesian incentive compatibility via fractional assignments
Xiaohui Bei and Zhiyi Huang
In *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2011.
Invited talk in China Theory Week '10.
- [3] Black-box reductions in mechanism design
Zhiyi Huang, Lei Wang, and Yuan Zhou
In *Proceedings of the International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 2011.
- [4] Sampling from constrained multivariate distribution
Zhiyi Huang and Sampath Kannan
In *Proceedings of the International Workshop on Randomization and Computation (RANDOM)*, 2011.
- [5] Dynamic and non-uniform pricing strategies for revenue maximization
Tanmoy Chakraborty, Zhiyi Huang, and Sanjeev Khanna
In *Proceedings of the Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, 2009.
Invited to SIAM Journal on Computing, **special issue for FOCS 2009**.
- [6] Revisiting the direct sum theorem and space lower bounds in random order streams
Sudipto Guha and Zhiyi Huang
In *Proceedings of the International Colloquium on Automata, Languages and Programming (ICALP)*, 2009.
- [7] Reconstructing numbers from pairwise function values
Shiteng Chen, Zhiyi Huang, and Sampath Kannan
In *Proceedings of the International Symposium on Algorithms and Computation (ISAAC)*, 2009.
Invited to Algorithmica, **special issue for ISAAC 2009**.

WORKING PAPERS AND MANUSCRIPTS

- [8] The exponential mechanism for social welfare: private, truthful, and nearly optimal
Zhiyi Huang and Sampath Kannan
In submission, 2011.
- [9] Simple and nearly optimal multi-item auction
Yang Cai and Zhiyi Huang
In submission, 2011.
- [10] Testing coverage functions
Deeparnab Chakraborty and Zhiyi Huang
Working paper, 2011.

- [11] Santa Claus' concern of truthfulness: on the limit of Bayesian mechanism design
Zhiyi Huang
 Working paper, 2011.
- [12] Turnpike problem, Golomb ruler, and sparse ruler
Shiteng Chen, Zhiyi Huang, Xuan Liu, and Xiaoming Sun
 Manuscript. I prepared this manuscript during an independent study under Professor Xiaoming Sun in Institute of Theoretical Computer Science, Tsinghua University, 2008.

THESIS

- [13] Constructing web directory based on user behavior (in Chinese)
Bachelor thesis, under Professor Yiqun Liu and Professor Shaoping Ma in Computer Science and Technology, Tsinghua University, 2008.

TEACHING EXPERIENCE

<i>CIS 511 Theory of Computation</i> , Teaching Assistant	Spring 2011
<i>CIS 320 Introduction to Algorithms</i> , Teaching Assistant	Spring 2010
<i>CIS 502 Analysis of Algorithms</i> , Teaching Assistant	Fall 2009

PROFESSIONAL SERVICE

Reviewer, <i>ACM-SIAM Symposium on Discrete Algorithms (SODA)</i>	2010
Reviewer, <i>Algorithmica</i>	2010
Reviewer, <i>ACM-SIAM Symposium on Discrete Algorithms (SODA)</i>	2012
Reviewer, <i>ACM Symposium on Theory of Computing (STOC)</i>	2012

REFERENCES

Sampath Kannan

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Sanjeev Khanna

Professor, Computer and Information Science, University of Pennsylvania

Email: sanjeev@cis.upenn.edu

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Associate Professor, Computer and Information Science, University of Pennsylvania

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Nikhil R. Devanur

Researcher, Microsoft Research, Redmond
Email: nikdev@microsoft.com

Andrew Yao

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Xiaoming Sun

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