QIN ZHANG

Computer Science
School of Informatics and Computing
Indiana University
Lindley Hall, 150 S. Woodlawn Ave.
Bloomington, IN 47405, USA

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homes.soic.indiana.edu/qzhangcs

RESEARCH INTERESTS
- Algorithms for big data; data stream algorithms; sublinear algorithms, algorithms on distributed data; I/O-efficient algorithms; data structures; database algorithms; communication complexity.

EMPLOYMENT
- Indiana University, Bloomington, IN, USA — August 2013 – Present
  Assistant Professor
- Theory Group, IBM Research Almaden, San Jose, CA, USA — October 2012 – July 2013
  Post-doctoral Researcher
- Center for Massive Data Algorithmics, Aarhus University, Denmark — August 2010 – July 2012
  Post-doctoral Associate

EDUCATION
- Ph.D. in Computer Science and Engineering — July 2010
  Hong Kong University of Science and Technology
  Dissertation: *Communication-efficient Algorithms for Tracking Distributed Data Streams.*
- B.S. in Computer Science — July 2006
  Fudan University, Shanghai, China

Note: All papers use **alphabetic** ordering of authors except mentioned otherwise.

INVITED JOURNAL PAPERS
- G. Cormode, S. Muthukrishnan, K. Yi and Q. Zhang. Continuous Sampling from Distributed Streams. *Journal of the ACM* (**JACM**), 59(2): 10, 2012.
- D. P. Woodruff and Q. Zhang. When Distributed Computation is Communication Expensive. **Distributed Computing**, First online: 05 May 2014.

JOURNAL PAPERS
- J. Chen and Q. Zhang. Improved Algorithms for Distributed Entropy Monitoring. To appear in **Algorithmica**. Accepted in August 2016.
- J. M. Phillips, E. Verbin, and Q. Zhang. Lower Bounds for Number-in-Hand Multiparty Communication Complexity, Made Easy. *SIAM Journal of Computing* **(SICOMP)**, 45(1): 174-196, 2016
- R. Pagh, Z. Wei, K. Yi, and Q. Zhang. Cache-Oblivious Hashing. **Algorithmica**, 69(4): 864-883, 2014.
- E. Verbin and Q. Zhang. The Limits of Buffering: A Tight Lower Bound for Dynamic Membership in the External Memory Model. *SIAM Journal of Computing* **(SICOMP)**, 42(1): 212-229, 2013.
- K. Yi and Q. Zhang. Optimal Tracking of Distributed Heavy Hitters and Quantiles. **Algorithmica**, 65(1): 206-223, 2013.
- K. Yi and Q. Zhang. Multi-Dimensional Online Tracking. *ACM Transactions on Algorithms* **(TALG)**, 8(2), Article 12, April 2012.

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PEER-REVIEWED CONFERENCE PAPERS

- S. Guha, Y. Li and Q. Zhang. Distributed Partial Clustering. *In Proceedings of the 29th ACM Symposium on Parallelism in Algorithms and Architectures* **(SPAA '17)**, to appear. Washington D.C., U.S.A., July 2017. **Best paper award**.
- J. Chen and Q. Zhang. Bias-Aware Sketches *In Proceedings of the 43rd International Conference on Very Large Data Bases* **(VLDB '17)**, to appear. Munich, Germany, August-September 2017.
- J. Chen, H. Sun, D. Woodruff, and Q. Zhang Communication-Optimal Distributed Clustering. *In Proceedings of the 30th Annual Conference on Neural Information Processing Systems* **(NIPS '16)**, pages 3720-3728. Barcelona, Spain, December 2016.
- D. Belazzougui and Q. Zhang. Edit Distance: Sketching, Streaming and Document Exchange. *In Proceedings of the 57th IEEE Symposium on Foundations of Computer Science* **(FOCS '16)**, pages 51-60. New Brunswick, NJ, U.S.A., October, 2016.
- D. Chen and Q. Zhang. Streaming Algorithms for Robust Distinct Elements. *In Proceedings of the 35th ACM SIGMOD International Conference on Management of Data* **(SIGMOD '16)**, pages 1433-1447. San Francisco, CA, USA, June 2016.
- A. Andoni, J. Chen, R. Krauthgamer, B. Qin, D. P. Woodruff, and Q. Zhang. On Sketching Quadratic Forms. *In Proceedings of the 7th Innovations in Theoretical Computer Science* **(ITCS '16)**, pages 311-319. Cambridge, MA, USA, January 2016.
- Q. Zhang. Communication-Efficient Computation on Distributed Noisy Datasets. *In Proceedings of the 27th ACM Symposium on Parallelism in Algorithms and Architectures* **(SPAA '15)**, pages 313-322. Portland, Oregon, USA, June 2015.
- D. Van Gucht, R. Williams, D. P. Woodruff, and Q. Zhang. The Communication Complexity of Distributed Set-Joins with Applications to Matrix Multiplication. *In Proceedings of the 34th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems* **(PODS '15)**, pages 199-212. Melbourne, VIC, Australia, May-June 2015.
- Z. Huang, B. Radunovic, M. Vojnovic, and Q. Zhang. Communication Complexity of Approximate Matching in Distributed Graphs. *In Proceedings of the 32nd Symposium on Theoretical Aspects of Computer Science* **(STACS '15)**, pages 460-473. Munich, Germany, March 2015.
- D. Chen, C. Konrad, K. Yi, W. Yu, and Q. Zhang. Robust Set Reconciliation. *In Proceedings of the 33th ACM SIGMOD International Conference on Management of Data* **(SIGMOD '14)**, pages 135-146. Snowbird, UT, USA, June 2014.
- D. P. Woodruff and Q. Zhang. An Optimal Lower Bound for Distinct Elements in the Message Passing Model. *In Proceedings of the 25th ACM-SIAM Symposium on Discrete Algorithms* **(SODA '14)**, pages 718-733. Portland, OR, USA, January 2014.
- D. P. Woodruff and Q. Zhang. When Distributed Computation is Communication Expensive. *In Proceedings of the 27th International Symposium on Distributed Computing* **(DISC '13)**, pages 16-30. Jerusalem, Israel, October 2013.
- D. P. Woodruff and Q. Zhang. Subspace Embeddings and Lp Regression Using Exponential Random Variables. *In Proceedings of the 26th Annual Conference on Learning Theory* **(COLT '13)**, pages 546-567. Princeton, NJ, USA, June 2013.
- L. K. Lee, M. Lewenstein, and Q. Zhang. Parikh Matching in the Streaming Model. *In Proceedings of the 19th International Symposium on String Processing and Information Retrieval* **(SPIRE '12)**, pages 336-341. Cartagena de Indias, Colombia, October 2012.
- E. Verbin and Q. Zhang. Rademacher-Sketch: A Dimensionality-Reducing Embedding for Sum-Product Norms, with an Application to Earth-Mover Distance. *In Proceedings of the 39th International Colloquium on Automata, Languages and Programming* **(ICALP '12)**, pages 834-845. Warwick, UK, July 2012.

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- ◇ Z. Huang, K. Yi, and Q. Zhang. Randomized Algorithms for Tracking Distributed Count, Frequencies, and Ranks. *In Proceedings of the 31th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems* **(PODS ′12)**, pages 295-306. Scottsdale, Arizona, USA, May 2012.
- ◇ D. P. Woodruff and Q. Zhang. Tight Bounds for Distributed Functional Monitoring. *In Proceedings of the 44th ACM Symposium on Theory of Computing* **(STOC ′12)**, pages 941-960. New York, NY, USA, May 2012.
- ◇ J. M. Phillips, E. Verbin, and Q. Zhang. Lower Bounds for Number-in-Hand Multiparty Communication Complexity, Made Easy. *In Proceedings of the 23th ACM-SIAM Symposium on Discrete Algorithms* **(SODA ′12)**, pages 486-501. Kyoto, Japan. January 2012.
- ◇ M. T. Goodrich, N. Sitchinava, and Q. Zhang. Sorting, Searching and Simulation in the MapReduce Framework. *In Proceedings of the 22th International Symposium on Algorithms and Computation* **(ISAAC ′11)**, pages 374-383. Yokohama, Japan. December 2011.
- ◇ H. L. Chan, T. W. Lam, L. K. Lee, J. Pan, H. F. Ting, and Q. Zhang. Edit Distance to Monotonicity in Sliding Windows. *In Proceedings of the 22th International Symposium on Algorithms and Computation* **(ISAAC ′11)**, pages 564-573. Yokohama, Japan. December 2011.
- ◇ J. Li, K. Yi, and Q. Zhang. Clustering with Diversity. *In Proceedings of the 37th International Colloquium on Automata, Languages and Programming* **(ICALP ′10)**, pages 188-200. Bordeaux, France, July 2010.
- ◇ R. Pagh, Z. Wei, K. Yi, and Q. Zhang. Cache-Oblivious Hashing. *In Proceedings of the 29th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems* **(PODS ′10)**, pages 297-304. Indianapolis, IN, USA, June 2010.
- ◇ G. Cormode, S. Muthukrishnan, K. Yi, and Q. Zhang. Optimal Sampling From Distributed Streams. *In Proceedings of the 29th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems* **(PODS ′10)**, pages 77-86. Indianapolis, IN, USA, June 2010.
- ◇ E. Verbin and Q. Zhang. The Limits of Buffering: A Tight Lower Bound for Dynamic Membership in the External Memory Model. *In Proceedings of the 42nd ACM Symposium on Theory of Computing* **(STOC ′10)**, pages 447-456. Cambridge, MA, USA, June 2010.
- ◇ K. Yi and Q. Zhang. On the Cell Probe Complexity of Dynamic Membership. *In Proceedings of the 21st ACM-SIAM Symposium on Discrete Algorithms* **(SODA ′10)**, pages 123-133. Austin, TX, USA, January 2010.
- ◇ Z. Wei, K. Yi, and Q. Zhang. Dynamic External Hashing: The Limit of Buffering. *In Proceedings of the 21st ACM Symposium on Parallelism in Algorithms and Architectures* **(SPAA ′09)**, pages 253-259. Calgary, Canada, August 2009.
- ◇ K. Yi and Q. Zhang. Optimal Tracking of Distributed Heavy Hitters and Quantiles. *In Proceedings of the 28th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems* **(PODS ′09)**, pages 167-174. Providence, RI, USA, June - July 2009.
- ◇ K. Yi and Q. Zhang. Multi-Dimensional Online Tracking. *In Proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms* **(SODA ′09)**, pages 1098-1107. New York, NY, USA, January 2009.
- ◇ J. Jia, Q. Zhang, Q. Zhang, and M. Liu *(ordered by contribution).* Revenue Generation for Truthful Spectrum Auction in Dynamic Spectrum Access. *In Proceedings of the 10th ACM International Symposium on Mobile Ad Hoc Networking and Computing* **(MobiHoc ′09)**, pages 3-12. New Orleans, LA, USA, May 2009.
- ◇ Q. Zhang, F. Li, and K. Yi *(ordered by contribution).* Finding Frequent Items in Probabilistic Data. *In Proceedings of the 27th ACM SIGMOD International Conference on Management of Data* **(SIGMOD ′08)**, pages 819-832. Vancouver, Canada, June 2008.

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PAPERS UNDER SUBMISSION

- A. Andoni, J. Chen, R. Krauthgamer, B. Qin, D. P. Woodruff, and Q. Zhang. On Sketching Quadratic Forms. *Manuscript; journal version of the ITCS'16 paper; under submission*; arXiv: `http://arxiv.org/abs/1511.06099`.
- J. Chen and Q. Zhang. Bias-Aware Sketches. *Manuscript; under submission*.
- S. Guha, Y. Li, and Q. Zhang. Distributed Partial Optimizations with Applications to Clustering and Segment Representation. *Manuscript; under submission*.
- J. Chen, H. Nguyen, and Q. Zhang. Submodular Maximization over Sliding Windows. *Manuscript; under submission*.
- H. Zhang and Q. Zhang. Computing Skylines on Distributed Data. *Manuscript; under submission*.

THESIS

- Qin Zhang. Communication-efficient Algorithms for Tracking Distributed Data Streams. Ph.D. Thesis. Hong Kong University of Science and Technology, 2010.

PATENTS

- D. Woodruff and Q. Zhang. Faster Robust Regression Using Exponential Random Variables. United States Patent Application 20150286612; Kind Code A1.
- G. Cormode, K. Yi., and Qin Zhang. "Methods for Drawing a Sample from Distributed Data Streams". US #8458326 B2, June 4, 2013.

FUNDING

- (Single PI at IU) *Efficient Distributed Computation of Large-Scale Graph Problems in Epidemiology and Contagion Dynamics*.
  NSF IIS-1633215, 09/2016-08/2020, $530,114.
  Total $1.8M, with Gopal Pandurangan (University of Houston) and Anil Vullikanti (Virginia Tech.)
- (Single PI) *Efficient Algorithms for Querying Noisy Distributed/Streaming Datasets*.
  NSF CCF-1525024, 06/2015-05/2018, $444,320.
- (Single PI) *A Foundation of Communication-Efficient Online Distributed Data Processing*.
  IU Faculty Research Support Program (FRSP), 06/2015-05/2016, $38,000.
- Past Grants:
  – (Co-PI) *Data Structure Complexity in Data Streams and MapReduce Models*.
  01/2011-01/2013, CNY 40,000. PI: Yitong Yin (Nanjing University, China).
  – ACM travel grant for STOC 2010 and SPAA 2009.
  – Microsoft travel grant for SODA 2010.
  – HKUST travel grant, for STOC 2010, SODA 2010, and SIGMOD 2008.

TEACHING EXPERIENCE

- Indiana University, Bloomington, USA 2013 – Present
  – Fall 2015: Instructor, CSCI-B561 Advanced Database Concepts (2 Sessions)
  – Spring 2015: Instructor, CSCI-Y790: Algorithms for Numerical Linear Algebra
  – Fall 2014 and Spring 2015: Instructor, CSCI-Y790: Advanced Data Mining
  – Fall 2014: Instructor, CSCI-B561 Advanced Database Concepts (2 Sessions)
  – Spring 2014: Instructor, CSCI-Y790: Advanced Randomized Algorithms
  – Spring 2014: Instructor, CSCI-B490 Mining the Big Data
  – Fall 2013: Instructor, CSCI-B669 Sublinear Algorithms for Big Data
- Aarhus University, Denmark 2011
  – Spring 2011: Instructor, Streaming Algorithms

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◇ Hong Kong University of Science and Technology 2006 – 2010, 2012

– Summer 2012: Instructor, Linear Sketch and Its Applications in Data Streams and Compressive Sensing

– 2006, 2007, 2008, 2009, 2010: Teaching Assistant, for courses Discrete Mathematics, Combinatorial Optimization, Design and Analysis of Algorithms, Computational Geometry

INVITED WORKSHOP TALKS

◇ Communication Complexity for Distributed Graphs. *ADGA: Workshop on Advances in Distributed Graph Algorithms*, Paris, France. September 2016.

◇ Lower Bound Techniques for Multiparty Communication Complexity. *Nexus of Information and Computation Theories*, Henri Poincare Institute, Paris, France. February 2016.

◇ Streaming Algorithms for Robust Distinct Elements. *Workshop on Multi-dimensional Proximity Problems*, University of Maryland, College Park, MD, USA. January 2016.

◇ Algorithms for Querying Noisy Distributed/Streaming Datasets. *Sublinear Algorithms Workshop*, Johns Hopkins University, Baltimore, MD, USA. January 2016.

◇ A Sketching Algorithm for Spectral Graph Sparsification. *NII Shonan Meeting on Algorithms for Large Scale Graphs*, Shonan Village, Japan. October 2014.

◇ New Directions in Distributed Monitoring. *Bertinoro Workshop on Sublinear Algorithms*, Bertinoro (Forl-Cesena), Italy. May 2014.

◇ Multiparty Communication Complexity in the Message-Passing Model. *Workshop on Theoretical Aspects of Big Data*, Hong Kong. July 2013.

◇ Rademacher Embedding, with Application to Earth-Mover Distance. *Workshop on Algorithms for Data Streams*, Dortmund, Germany. July 2012.

◇ Tight Bounds for Distributed Functional Monitoring. *NII Shonan Meeting on Large-scale Distributed Computation*, Shonan Village, Japan. January 2012.

◇ Lower Bounds for Number-in-Hand Multiparty Communication Complexity. *Workshop: Synergies in Lower Bounds*, Aarhus, Denmark. June 2011.

◇ External Memory Data Structures with o(1)-I/O Updates. *China Theory Week*, Beijing, China. September 2010.

◇ Future invited workshops
– *NII Shonan Meeting on Processing Big Data Streams*, Shonan Village, Japan. June 2017.
– *Dagstuhl Workshop: Theory and Applications of Hashing*, Wadern, Germany. May 2017.
– *BIRS Workshop: Communication Complexity and Applications, II*, Banff, Alberta, Canada. March 2017.

◇ Other invited workshops in the past (but cannot make them due to visa issues)
– *BIRS Workshop: Towards a Unified Treatment of Dynamic Graphs*, Banff, Alberta, Canada. March 2015.
– *BIRS Workshop: Communication Complexity and Applications*, Banff, Alberta, Canada. August 2014.
– *NII Shonan Meeting on Compact Data Structures for Big Data*, Shonan Village, Japan. September 2013.

SEMINARS (EXTERNAL UNIVERSITIES)

◇ The Communication Complexity of Distributed Set-Joins.
– Computer Science Colloquium, *University of Houston*, Houston, TX, USA. November 2016.

◇ Edit Distance: Sketching, Streaming and Document Exchange.
– *Aarhus University*, Aarhus, Denmark. September 2016.

◇ Multiparty Communication Complexity in the Message-Passing Model.
– *Stanford University*, CA, USA. April 2013.
– *Purdue University*, IN, USA. October 2013.

◇ Rademacher Embedding, with application to Earth-Mover Distance.
– *Tsinghua University*, Beijing, China. January 2012.

◇ Tight Bounds for Distributed Functional Monitoring.
– *Hong Kong University of Science and Technology*, Hong Kong. August 2012.

◇ Taming the Data Deluge.
– *Nanyang Technological University*, Singapore, March 2012.
– *Fudan University*, Shanghai, China, September 2012.
– *Shanghai Jiao Tong University*, Shanghai, China. September 2012.

◇ Distributed Streaming.
– *IT University of Copenhagen*, Copenhagen, Denmark. December 2011.
– *Shanghai Jiao Tong University*, Shanghai, China. January 2012.

◇ Lower Bounds for Number-in-Hand Multiparty Communication Complexity.
– *LIAFA*, Paris, France. October 2011.

◇ Clustering with Diversity.
– *University of Hong Kong*, Hong Kong, China. June 2010.
– *Shanghai Jiao Tong University*, Shanghai, China. July 2010.

◇ On the Cell Probe Complexity of Dynamic Membership.
– *Fudan University*, Shanghai, China. September 2009.

◇ The Art of Metric Embeddings.
– *University of Leicester*, UK. August 2007.

SEMINARS (INTERNAL)

◇ Edit Distance: Sketching, Streaming and Document Exchange. *Theory Lunch Seminar*, Bloomington, IN, USA. September 2016.

◇ Efficient Algorithms for Querying Noisy Disturbed/Streaming Datasets. *IU Research Horizon*, Bloomington, IN, USA. September 2016.

◇ The Communication Complexity of Distributed Set-Joins with Applications to Matrix Multiplication. *Theory Lunch Seminar*, Bloomington, IN, USA. September 2015

◇ Computational Models for Big Data. *Department of Statistics Colloquium*, Bloomington, IN, USA. April 2015

◇ Efficient Statistical Estimations for Distributed Inconsistent Data. *Theory Lunch Seminar*, Bloomington, IN, USA. September 2014

◇ Lower Bound Techniques for Multiparty Communication. *Theory Lunch Seminar*, Bloomington, IN, USA. February 2014

◇ A Crash Introduction on Data Stream Algorithms. *Theory Lunch Seminar*, Bloomington, IN, USA. September 2013

SEMINARS (INDUSTRY)

◇ Multiparty Communication Complexity in the Message-Passing Model.
– *IBM Research Almaden*, San Jose, CA. USA. April 2012.

◇ Taming the Data Deluge.
– *IBM Research Almaden*, San Jose, CA. USA. November 2012.
– *Microsoft Research Asia*, Beijing, China. March 2012.

◇ Sorting, Searching and Simulation in the MapReduce Framework.
– *Microsoft Research Asia*, Beijing, China. January 2012.

◇ Optimal Sampling from Distributed Streams.
– *Microsoft Research Asia*, Beijing, China. September 2010.

◇ Dynamic Dictionary and Membership.
– *Microsoft Research Asia*, Beijing, China. July 2009.

MEDIA

◇ Interview "Lower Bounds for Distinct Elements in the Message Passing Model" by *Abstract Talk* (Collaborative Interviews on Science and Technology).

CONFERENCE TALKS

◇ Edit Distance: Sketching, Streaming and Document Exchange. *FOCS'16*, New Brunswick, NJ, USA. October 2016.

◇ Communication-Efficient Computation on Distributed Noisy Datasets. *SPAA'15*, Portland, OR, USA. June 2015.

◇ An Optimal Lower Bound for Distinct Elements in the Message Passing Model. *SODA'14*, Portland, OR, USA. January 2014.

◇ Subspace Embeddings and Lp Regression Using Exponential Random Variables. *COLT'13*, Princeton, NJ, USA. June 2013.

◇ Tight Bounds for Distributed Functional Monitoring. *STOC'12*, New York, NY, USA. May, 2012.

◇ Lower Bounds for Number-in-Hand Multiparty Communication Complexity. *SODA'12*, Kyoto, Japan. January 2012.

◇ On the Cell Probe Complexity of Dynamic Membership. *SODA'10*, Austin, TX, USA. January 2010.

◇ Dynamic External Hashing: The Limit of Buffering. *SPAA'09*, Calgary, Canada. August 2009.

◇ Optimal Tracking of Distributed Heavy Hitters and Quantiles. *PODS'09*, Providence, RI, USA. June 2009.

◇ Multi-Dimensional Online Tracking. *SODA'09*, New York, USA. January 2009.

◇ Dynamic External Hashing: The Limit of Buffering. *The second Annual Meeting of Asian Association for Algorithms and Computation*, Hang Zhou, China. April 2009.

◇ Finding Frequent Items in Probabilistic Data. *SIGMOD'08*, Vancouver, Canada. June 2008.

◇ Shannon Coding for the Discrete Noiseless Channel and Related Problems. *The first Annual Meeting of Asian Association for Algorithms and Computation*, Hong Kong, China. April 2008.

STUDENT SUPERVISION

◇ Ph.D. Student Supervision (all at CS/IU)
– Jiecao Chen (since January 2014)
– Haoyu Zhang (since August 2015)

◇ Postdoc (at CS/IU)
– Ana Belén Cerdeira Pena (Fall 2015)

◇ Thesis Committees (at CS/IU)
– Yifan Pan, 2015 (Advisor: Yuqing Wu)

◇ External Thesis Committees
– Yang Li, 2017 (at Upenn)

◇ Ph.D. Advisory Committees (all at CS/IU)
– Lei Le
– Inhak Hwang

◇ Other PhD Students Who I Have Worked With
– Di Chen (HKUST; visited IU in summer 2014)
– Bo Qin (HKUST; visited IU in summer 2014 and summer 2015)

◇ Supervised Independent Study Projects (all at IU)

– Rachel Lowden (B.S. at Neuroscience). Streaming Algorithms, Spring 2015
– Zhihua Chen (M.S. at CS). A Deep Look Into LSH-based Similarity Search, Fall 2014
– Soheil Jazayeri (M.S. at CS). Large Scale Link Based Clustering, Spring 2014
– Wen Chen (M.S. at CS). Adwords Problems, Spring 2014

HONORS

◇ ACM SPAA 2017 Best Paper Award.

◇ HKUST Ph.D. Scholarship, 2006 – 2010, Annual.

◇ Scholarship of Fudan University, 2002 – 2006, Annual.

◇ *Fudi* Scholarship for University Study, 2002 – 2006, Annual.

◇ Gold Medal in China National Olympiad in Mathematics, 2002

◇ Silver Medal in China National Olympiad in Mathematics, 2001

PROFESSIONAL SERVICES

◇ Panels: National Science Foundation (2015)

◇ Journal Editor: Guest Editor, ACM Transactions on Algorithms, SODA 2016 Special Issue

◇ Conference Program committees

– WADS, Algorithms and Data Structures Symposium (2017)
– PODS, ACM Symposium on Principles of Database System (2017)
– NIPS (reviewer), Annual Conference on Neural Information Processing Systems (2016)
– SODA, ACM-SIAM Symposium on Discrete Algorithms (2016)
– CIKM, Conference on Information and Knowledge Management (2014, 2015, 2016)
– MASSIVE, Workshop on Massive Data Algorithmics (2014, 2015, 2016)
– KDDA, Knowledge Discovery and Data Analysis (2015)
– TAMC, Conference on Theory and Applications of Models of Computation (2013)
– DB3, International Workshop on Big Dynamic Distributed Data (2013)

◇ Conferences reviewing

– STOC, ACM Symposium on Theory of Computing (2009, 2014, 2016)
– FOCS, IEEE Symposium on Foundations of Computer Science (2013, 2014, 2015, 2016)
– SODA, ACM-SIAM Symposium on Discrete Algorithms (2008, 2011, 2012, 2013, 2014, 2015, 2017)
– PODS, ACM Symposium on Principles of Database System (2010, 2012, 2014, 2015)
– SoCG, ACM Symposium on Computational Geometry (2011, 2013)
– ICALP, International Colloquium on Automata, Languages and Programming (2009, 2012, 2013, 2015, 2016)
– ESA, European Symposium on Algorithms (2013, 2014, 2015)
– STACS, Symposium on Theoretical Aspects of Computer Science (2007, 2010, 2012, 2013, 2014)
– APPROX, International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (2012, 2013, 2015)
– RANDOM, International Workshop on Randomization and Computation (2015)
– ISAAC, International Symposium on Algorithms and Computation (2012, 2013, 2014, 2015)
– IPDPS, International Parallel & Distributed Processing Symposium (2015)
– WINE, Conference on Web and Internet Economics (2010)

  - COCOON, International Computing and Combinatorics Conference (2011, 2014)
  - ALENEX, Algorithm Engineering and Experiments (2011)
  - ACSC, Australasian Computer Science Conference (2011)
  - IPDPS, International Parallel & Distributed Processing Symposium

◇ Journals reviewing

  - SIAM Journal of Computing
  - JCSS, Journal of Computer and System Sciences
  - Algorithmica
  - TALG, ACM Transactions on Algorithms
  - TKDE, IEEE Transactions on Knowledge and Data Engineering
  - Distributed and Parallel Databases
  - EJOR, European Journal of Operational Research
  - JOCO, Journal of Combinatorial Optimization
  - IPL, Information Processing Letters
  - WWWJ, World Wide Web Journal
  - VLDB, Very Large Database

UNIVERSITY SERVICE

◇ Hiring Committee (2015 – 2016)

◇ Graduate Education Committee (2015 – 2016)

◇ Graduate Admissions and Award Committee (2013 – 2015, 2016 – 2017)

◇ SOIC Data Science Curriculum Committee (2014)