Hossein Jowhari [Curriculum Vitae]

Year of Birth:	1980
Citizenship:	Iran
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Research Interests

- Algorithms for Big Data

- Computational Data Mining

Education

- Ph.D. , Computer Science, **Simon Fraser University**, BC, Canada, Jan 2006- May 2012
  Thesis: *Measuring Trends and Repetitions In Data Streams*
  Thesis qualified for Distinguished Dissertation Award in 2012 at Simon Fraser University
  Senior Supervisor: Prof. Funda Ergun
  Supervisor: Prof. Gabor Tardos

- MSc. Computer Engineering (Software), **Sharif University of Technology**, Tehran, Iran, 2002- 2005
  Thesis: *Streaming Algorithms for Extracting Properties of Large Graphs*
  Senior Supervisor: Prof. Mohammad Ghodsi

- BSc. Computer Engineering (Software), **Kharazmi University**, Iran, 1998- 2002

Work Experience

- **Assistant Professor**. Department of Computer Science and Statistics. Faculty of Mathematics. K. N. Toosi University of Technology. Tehran. Iran. Fall 2017-present.

- **Research Fellow at Department of Computer Science, University of Warwick**. OCT 2015 - OCT 2016. United Kingdom. Mentor: Prof. Graham Cormode.

- **Postdoctoral Researcher at MADALGO Research Center**. Apr 2012 - Apr 2013. Aarhus University, Denmark.

- **Research and Teaching Assistant** at School of Computing Science, Simon Fraser University. Jan 2006- May 2012.

- **Part-time lecturer at Azad University**. Tehran-Shomal. Teaching Discrete Mathematics. Summer 2015.

- **Lecturer at Azad University**, Dezful Branch, Iran. Nov 2004 - May 2005.

Conference Publications

1. H. Jowhari. *An Estimator for Matching Size in Low Arboricity Graphs with Two Applications*. APPROX 2021.

2. G. Cormode, H. Jowhari, M. Monemizadeh, S. Muthukrishnan. *The Sparse Awakens: Streaming Algorithms for Matching Size Estimation in Sparse Graphs.* ESA 2017.

3. H. Jowhari. *Efficient Communication Protocols for Deciding Edit Distance.* In ESA 2012 - 20th Annual European Symposium, Ljubljana, Slovenia, September 10-12, 2012. *Invited to a special issue of Algorithmica.*

4. H. Jowhari, M. Saglam and G. Tardos. *Tight Bounds for Lp Samplers, Finding Duplicates in Streams, and Related Problems.* Proceedings of the 30th ACM Symposium on Principles of Database Systems, PODS 2011. Athens, Greece.

5. F. Ergun, H. Jowhari, M. Saglam. *Periodicity in Streams.* In 14th International Workshop, RANDOM 2010. Barcelona, Spain.

6. P. Dao, F. Hormozdiari, H. Jowhari, K. Byler, A. Cherkasov, S.C. Sahinalp. *Improved Small Molecule Activity Determination via Centroid Nearest Neighbors Classification.* 8th Annual International Conference on Computational Systems Bioinformatics. CSB 2009. Stanford University.

7. F. Ergun, H. Jowhari. *On Distance to Monotonicity and Longest Increasing Subsequence of a Data Stream.* Proceedings of the 19th Annual ACM-SIAM Symposium on Discrete Algorithms, SODA 2008, San Francisco, California.

8. I. Hajirasouliha, H. Jowhari, R. Kumar, R. Sundaram. *On Completing Latin Squares.* 24th Annual Symposium on Theoretical Aspects of Computer Science. STACS 2007. Aachen, Germany.

9. M. Ghodsi, H. Jowhari. *New Streaming Algorithms for Counting Triangles in Graphs.* Computing and Combinatorics, 11th Annual International Conference. COCOON 2005. Kunming, China.

Journal Publications

1. E. Ghorbani, H. Jowhari, *A Hall-type theorem with algorithmic applications in planar graphs.* Discrete Mathematics 347 (4), 113892.

2. H. Jowhari, M. Rezapour, *Monochromatic partitioning of colored points by lines.* Information Processing Letters 182, 106402.

3. H. Jowhari. *An estimator for matching size in low arboricity graphs with two applications.* Journal of Combinatorial Optimization. Vol. 45(1). 2023.

4. G. Cormode, H. Jowhari. *Lp samplers and their applications: a survey.* ACM Computing Surveys. Vol. 52, Issue 1. February 2019.

5. F. Ergun, H. Jowhari. *On the monotonicity of a data stream.* Volume 35, Issue 6, pp 641-653. *Combinatorica.* 2015

6. G. Cormode, H. Jowhari. *A Second Look at Counting Triangles in Streams.* Volume 552, pp 44-51. *Theoretical Computer Science.* October 2014.

Talks and Presentations

- IPM. Weekly Seminars on Combinatorics and Computing. *Space of complexity of estimating the maximum matching size.* May 2022.

- IPM. Weekly Seminars on Combinatorics and Computing. *L_p Samplers and Their Applications.* December 2019.

- IPM. Weekly Seminars on Combinatorics and Computing. *Streaming Algorithms for the Maximum Matching Problem in Planar Graphs.* September 2017.

- University of Warwick. DIMACS Series. *Introduction to Lp samplers.* November 2016.

- ESA conference 2012. Ljubljana, Slovenia. *Efficient Communication Protocols for Edit Distance.*

- University of Dortmund, Streaming Workshop, May 2012.

- A&C Seminars, CSAIL, MIT. October 2011.*Near-optimal bounds for Lp samplers with application in finding duplicates in data streams.*

- PODS 2011, Athens, Greece. June 2011. *Tight bounds for Lp samplers and finding duplicates in streams and related problems.*

- Workshop of Mathematics of String Spaces and Algorithmic Applications. Banff, Canada. January 2009. *Distance to monotonicity in data streams.*

- Sublinear Algorithms Workshop. Dagstuhl, Germany. August 2008. *Approximating the length of the longest increasing subsequence in data streams.*

- SODA 2008. San Francisco, CA. Jan 2008. *On distance to monotonicity and longest increasing subsequence of data streams.*

- Talk in Theory group. College of Computer and Information Science. Northeastern University. May 2007. *Introduction to streaming algorithms.*

Academic Activities

- Organizer of *Workshop on Data Science and Combinatorial Algorithms.* Faculty of Mathematics. K. N. Toosi University of Technology. April 2019.

- Reviewer for various theoretical computer science conferences (STOC, SODA, ESA, ICALP, RANDOM) and journals (Theory of Computing, Information and Computation, IPL.) since 2008.