HEDYEH BEYHAGHI

Toyota Technological Institute at Chicago (TTIC)
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RESEARCH INTERESTS

Algorithmic Game Theory and Mechanism Design, Algorithms under Uncertainty

EDUCATION

Ph.D. in Computer Science. Cornell University. *2019*
Thesis: *Approximately-Optimal Mechanisms in Auction Design, Search Theory, and Matching Markets*
Advisor: Éva Tardos

M.S. in Computer Science. Cornell University. *2017*

B.S. in Computer Engineering. Sharif University of Technology. *2012*

APPOINTMENTS

Post-doctoral Research Fellow.
Toyota Technological Institute at Chicago and Northwestern University. *2019 – present*
Supervisors: Avrim Blum, Jason Hartline, Samir Khuller.

RESEARCH VISITS AND INTERNSHIPS

Ivy-Plus Exchange Scholar. Princeton University. *2017 – 2019*
Host: Matt Weinberg.

Visiting Student. Microsoft Research, New England. *April 2019*
Host: Brendan Lucier.

Intern. Google, New York. *Summer 2017*

Visiting Scholar. UC Berkeley. *Fall 2015*
Semester on Economics and Computation at the Simons Institute for theory of computing.

SERVICE

Program Committee. Conference on Web and Internet Economics (WINE). *2021*

Program Committee. ACM Conference on Economics and Computation (EC). *2021*

Co-organizer. Junior Theorists Workshop, Northwestern University CS. *2020*

Program Committee. ACM Conference on Economics and Computation (EC). *2020*

Journal Referee.
Management Science. *2021*
Mathematics of Operations Research. *2021*
Games and Economic Behavior. *2020*
Operations Research. *2020*

Conference External Reviewer.
ACM-SIAM Symposium on Discrete Algorithms (SODA). *2022*
Innovations in Theoretical Computer Science (ITCS). *2021*
ACM-SIAM Symposium on Discrete Algorithms (SODA). *2021*

ACM-SIAM Symposium on Discrete Algorithms (SODA). *2020*
International Conference on Distributed Artificial Intelligence (DAI). *2019*
European Symposium on Algorithms (ESA). *2019*
Conference on Web and Internet Economics (WINE). *2019*
ACM Conference on Economics and Computation (EC). *2019*
Innovations in Theoretical Computer Science (ITCS). *2019*
Conference on Web and Internet Economics (WINE). *2018*
ACM Conference on Economics and Computation (EC). *2018*

Member. PhD Admission Committee, Northwestern University CS. *2020*

Member. Faculty Recruiting Grad Committee, Princeton University CS. *2019*

AWARDS, FELLOWSHIPS, AND DISTINCTIONS

Post-doctoral Research Fellowship. Toyota Technological Institute at Chicago. *2020*

Post-doctoral Research Fellowship. Northwestern University. *2019*

Ranked 3rd in National Scientific Olympiad in Computer Engineering, Iran. *2012*

Ranked 1st, 1st, 2nd, and 5th in Nationwide Graduate Entrance Exam in Algorithms and Computation, Software Engineering, Artificial Intelligence, and Computer Architecture, respectively, Iran. *2012*

Recognized as an exceptional talented B.Sc. student and been granted unconditional offer of admission to the M.Sc. program in Computer Engineering at Sharif University of Technology. *2011*

JOURNAL PAPER

Hedyeh Beyhaghi, Negin Golrezaei, Renato Paes Leme, Martin Pál, Balasubramanian Sivan.
Improved Revenue Bounds for Posted-Price and Second-Price Mechanisms.
Operations Research, 2021, forthcoming.

REFEREED CONFERENCE PAPERS

Maryam Bahrani, Hedyeh Beyhaghi, Sahil Singla, S. Matthew Weinberg.
Formal Barriers to Simple Algorithms for the Matroid Secretary Problem.
To Appear in Proceedings of the 17th Conference on Web and Internet Economics (WINE), 2021.

Saba Ahmadi, Hedyeh Beyhaghi, Avrim Blum, Keziah Naggita.
The Strategic Perceptron.
In Proceedings of the 22nd ACM Conference on Economics and Computation (EC), 2021.

Hedyeh Beyhaghi, Éva Tardos.
Randomness and Fairness in Two-Sided Matching with Limited Interviews.
In Proceedings of the 12th Innovations in Theoretical Computer Science (ITCS), 2021.

Hedyeh Beyhaghi, S. Matthew Weinberg.
Optimal (and Benchmark-Optimal) Competition Complexity for Additive Buyers over Independent Items.
In Proceedings of the 51st ACM Symposium on Theory of Computing (STOC), 2019.

Hedyeh Beyhaghi, Robert Kleinberg.
Pandora's Problem with Nonobligatory Inspection.
In Proceedings of the 20th ACM conference on Economics and Computation (EC), 2019.

Hedyeh Beyhaghi, Éva Tardos, Daniela Saban.
Effect of Selfish Choices in Deferred Acceptance with Short Lists.
Accepted to the 4th International Workshop on Matching Under Preferences (Match-Up), 2017.

Hedyeh Beyhaghi, Éva Tardos, Nishanth Dikkala.
Effect of Strategic Grading and Early Offers in Matching Markets.
In Proceedings of the 8th International Symposium on Algorithmic Game Theory (SAGT), 2015.

Hedyeh Beyhaghi,Zahra Fahmi, Mohammad Amin Fazli, Jafar Habibi, Pooya Jalaly, Mohammad Ali Safari.
Naturality of Network Creation Games, Measurement and Analysis.
In Proceedings of the 2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 2012.

INVITED TALKS / POSTERS

Optimal (and Benchmark-Optimal) Competition Complexity for Additive Buyers over Independent Items

- Toyota Technological Institute at Chicago, 2019
- Symposium on Theory of Computing, 2019

Pandora's Problem with Nonobligatory Inspection

- Midwest Theory Day, 2019
- Informs, 2019
- Conference on Economics and Computation, 2019

Improved Approximations for Posted Price and Second-Price Mechanism

- Microsoft, 2019
- Conference on Economics and Computation, 2018 (Poster)

Matching Market with Limited Interviews

- Northwestern University, 2019
- Princeton University, 2017

Effect of Selfish Choices in Deferred Acceptance with Short Lists

- MATCH-UP Workshop, 2017
- New York Computer Science and Economics Day, 2017 (Poster)
- INFORMS, 2017

Effect of Strategic Grading and Early Offers in Matching Markets

- Symposium on Algorithmic Game Theory, 2015
- New York Computer Science and Economics Day, 2014 (Poster)

TEACHING EXPERIENCE

Teaching Assistant for the following courses at Department of Computer Science, Cornell University:

- **The Structure of Information Networks**,(Spring 2018) Jon Kleinberg.
- **Networks**,(Fall 2016) David Easley, Éva Tardos.
- **Networks**,(Fall 2012) Jon Kleinberg, Éva Tardos.

Teaching Assistant for the following courses at Computer Engineering Department, Sharif University of Technology:

- **Design and Analysis of Algorithms**,(Fall 2010, Spring 2011)
- **Discrete Structures**,(Spring 2010, Spring 2011)
- **Signals and Systems**,(Spring 2011)