

Mohammad Mahdavi

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Education

- 2023–Present **Ph.D. in Computer Science**, *University of Maryland*, College Park, MD US.
Under the supervision of Prof. MohammadTaghi Hajiaghayi.
◦ **M.Sc. in Computer Science** en route, awarded 2024
- 2018–2022 **B.Sc. in Computer Engineering**, *Sharif University of Technology*, Tehran, Iran.
GPA: 19.75/20

Publications

- 2025 **Breaking a Long-Standing Barrier: $2-\epsilon$ Approximation for Steiner Forest**, Ahmadi, A., Gholami, I., Hajiaghayi, M., Jabbarzade, P., **Mahdavi, M.**, **Best Paper** In 66th IEEE Symposium on Foundations of Computer Science (FOCS 2025) .
- 2025 **Delegation with Costly Inspection**, Hajiaghayi, M., Krysta P., **Mahdavi, M.**, Shin, S., In Proceedings of the 26th ACM Conference on Economics and Computation (EC 2025).
- 2025 **Prize-Collecting Forest with Submodular Penalties: Improved Approximation**, Ahmadi, A., Gholami, I., Hajiaghayi, M., Jabbarzade, P., **Mahdavi, M.**, In Proceedings of the 26th Conference on Integer Programming and Combinatorial Optimization (IPCO 2025).
- 2025 **2-Approximation for Prize-Collecting Steiner Forest**, Ahmadi, A., Gholami, I., Hajiaghayi, M., Jabbarzade, P., **Mahdavi, M.**, Journal of the ACM, Volume 72, Issue 2, Article 17
(Also Appeared In Proceedings of the 2024 Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2024)) .
- 2024 **Prize-Collecting Steiner Tree: A 1.79 Approximation**, Ahmadi, A., Gholami, I., Hajiaghayi, M., Jabbarzade, P., **Mahdavi, M.**, In Proceedings of the 56th Annual ACM Symposium on Theory of Computing (STOC 2024).
- 2024 **Regret Analysis of Repeated Delegated Choice**, Hajiaghayi, M., **Mahdavi, M.**, Rezaei, K., Shin, S., In Proceedings of the Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI 2024).
- 2021 **Polynomial Reachability Witnesses via Stellensätze**, Asadi, A., Chatterjee, K., Fu H., Goharshady, A.K., **Mahdavi, M.**, In Proceedings of the 42nd ACM SIGPLAN International Conference on Programming Language Design and Implementation (PLDI 2021).

Research Experience

- 2023 – **Graduate Research Assistant**, *University of Maryland-College Park*.
Present Focused on designing approximation algorithms for fundamental problems in computer science
Supervisor: Prof. MohammadTaghi Hajiaghayi
- Summer 2021 **Research Intern, Summer@EPFL**, EPFL.
Explored the design and analysis of approximation algorithms for explainable clustering
Supervisor: Dr. Ola Svensson
- Summer 2020 **Student Summer Research Program**, *The Chinese University of Hong Kong*.
Focused on the design of encoding methods for distributed computation
Supervisor: Dr. Pascal Vontobel
- Spring 2020 **Online Research Internship**, *IST Austria*.
Focused on verification and analysis of programs
Supervisor: Dr. Krishnendu Chatterjee

Honors and Awards

- 2023 3rd Place at ICPC North America Championship 2023
- 2018 Gold Medal at International Olympiad in Informatics 2018
- 2018 3rd Place at Tehran Regional ICPC 2018
- 2017 Gold Medal at Iran National Olympiad in Informatics

Skills & Strengths

- Math Combinatorics, Probability and Statistics, Graph Theory
- Algorithms Classic Algorithms, Approximation Algorithms, Data Structures, Combinatorial Optimization
- Programming Python, C++, Java