

Mohammad Saneian

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IOI Silver Medalist and Codeforces Grandmaster with a PhD in Computer Science specialising in algorithms, stochastic optimization, and decision-making under uncertainty. Expert C++ programmer with extensive experience in high-performance algorithmic implementation. Published at STOC, SODA, and ICALP.

Work Experience

Researcher in Algorithms and Optimization

Sept 2022 to Dec 2025

Northeastern University

- Developed query-efficient algorithms for stochastic matching and optimization under uncertainty.
- Designed and implemented streaming graph algorithms with asymptotically optimal memory guarantees.
- Analysed online ranking and matching algorithms on general graphs with improved approximation ratios.
- Implemented performance-critical algorithmic prototypes in C++ throughout research.

Research Intern

Jul 2020 to Mar 2021

EPFL, Lausanne, Switzerland

- Investigated robustness of trajectory prediction models under adversarial GPS perturbations; results published in Transportation Research Part C (2022).

Competitive Programming

Codeforces Grandmaster, peak rating, top 0.1% globally

2015 to Present

- Solved 700+ advanced problems spanning graph algorithms, dynamic programming, randomised algorithms, and data structures.
- **Silver Medalist**, International Olympiad in Informatics (IOI 2017)
- **Gold Medalist**, Iranian National Olympiad in Informatics (INOI 2016)
- **Gold Medalist**, ACM ICPC Regional Contest (2018)
- **Finalist**, SnackDown 2019, ranked 22nd out of 25,000+ teams

Education

PhD in Computer Science, Algorithms & Optimization

Sep 2022 to Dec 2025

Northeastern University

- Thesis: *Matching Algorithms under Uncertainty*, approximation and stochastic optimization algorithms for dynamic, uncertain environments.
- 6 publications during PhD at STOC, SODA, SODA, ICALP, and ITCS.
- Coursework: Algorithms for Big Data, Statistical ML, Intensive Computer Systems.

B.Sc. Computer Engineering

Sep 2017 to Feb 2022

Sharif University of Technology GPA: 3.69 / 4.0

Selected Publications

Google Scholar, 100+ citations

- [\[STOC 2026\]](#) Half-Approximating Maximum Dicut in the Streaming Setting
- [\[SODA 2026\]](#) Improved Approximation for Ranking on General Graphs
- [\[ICALP 2025\]](#) Query Efficient Weighted Stochastic Matching
- [\[ITCS 2025\]](#) Query Complexity of Stochastic Minimum Vertex Cover
- [\[ICALP 2024\]](#) Streaming Edge Coloring with Asymptotically Optimal Colors

Technical Skills

Languages C++, Python, Java, SQL, Bash

Systems High-performance implementation, memory-efficient data structures, algorithm engineering

Theory Stochastic Processes, Graph Theory, Probability, Optimization, Approximation Algorithms