

Mohammad Roghani

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EDUCATION

Stanford University, GPA: 4.06

Ph.D. in Management Science and Engineering

Jan. 2021 – Present

Stanford, CA

- Advisor: Prof. Amin Saberi

Stanford University, GPA: 4.06

M.Sc. in Management Science and Engineering

Jan. 2021 – Dec. 2022

Stanford, CA

Sharif University of Technology

B.Sc. in Software Engineering

Sep. 2015 – August. 2020

Tehran, Iran

RESEARCH INTERESTS

- Theoretical Computer Science
- Sublinear Algorithms
- Approximation Algorithms
- Dynamic Algorithms

PUBLICATIONS

- **Beating Greedy Matching in Sublinear Time**
S. Behnezhad, M. Roghani, A. Rubinstein, A. Saberi.
To appear in the ACM-SIAM Symposium on Discrete Algorithms (**SODA 2023**).
- **Improved Online Contention Resolution for Matchings and Applications to the Gig Economy**
T. Pollner, M. Roghani, A. Saberi, D. Wajc.
ACM Conference on Economics and Computation (**EC 2022**).
- **Sequential Importance Sampling for Estimating Expectations over the Space of Perfect Matchings**
Y. Alimohammadi, P. Diaconis, M. Roghani, A. Saberi.
To appear in the **Annals of Applied Probability**.
- **Beating the Folklore Algorithm for Dynamic Matching**
M. Roghani, A. Saberi, D. Wajc.
Innovations in Theoretical Computer Science (**ITCS 2022**).
- **Complexity of Computing the Anti-Ramsey Numbers for Paths**
S.A. Amiri, A. Popa, M. Roghani, G. Shahkarami, R. Soltani, H. Vahidi.
Proc. of the 45th International Symposium on Mathematical Foundations of Computer Science (**MFCS 2020**.)
- **Some Results on Dominating Induced Matching**
S. Akbari, H. Baktash, A. Behjati, A. Behmaram, M. Roghani.
Graphs and Combinatorics 38 (3), 1-8
- **TPS (Task Preparation System): A Tool for Developing Tasks in Programming Contests**
K. Mirjalali, A.K. Mohtashami, M. Roghani, H. Zarrabi-Zadeh.
Olympiads in Informatics, 2019, Vol. 13, 209 - 215.

HONORS AND AWARDS

- Recipient of the Krishnan Shah **Graduate Fellowship**, United States, 2023.
- Recipient of the Charles and Katharine Lin **Graduate Fellowship**, United States, 2022.
- Recipient of the Eltoukhy Family **Graduate Fellowship**, United States, 2021.
- Recipient of Stanford University **Doctoral Fellowship**, United States, 2021.
- **Gold Medal** in the National Olympiad in Informatics, Iran, 2014.
- **Silver Medal** in the Asia Pacific Olympiad in Informatics (APIO), Indonesia, 2015.
- **4th, 5th Team** in Regional Contests of ACM-ICPC West Asia Region, Tehran Site, respectively in 2015 and 2017.

REVIEWING

I have reviewed several papers at theoretical computer science conferences such as:

- **ACM-SIAM Symposium on Discrete Algorithms (SODA 2023)**
- **European Symposium on Algorithms (ESA 2022)**
- **International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2022)**

TEACHING

- **Teaching Assistant at Stanford University:** Market Design for Engineers.
- **Teaching Assistant at Sharif University of Technology:** Design of Algorithms, Data Structures, Probability and Statistics, Discrete Structures.

INTERNSHIPS

Uber Technologies Inc

June. 2022 – September. 2022

Software Engineering Internship

San Francisco, CA

- Working in the rider surge pricing team on designing and implementing pricing algorithms.

Max Planck Institute for Informatics

July. 2019 – August. 2019, January 2020 – February 2020

Research Internship

Saarbrücken, Germany

- Welfare approximation in coordination games on graphs.
- Complexity of computing the anti-Ramsey numbers for paths.

University of Tartu

July. 2018 – September. 2018

Research Internship

Tartu, Estonia

- Design and implementation of a high-level quantum programming language in C++ that translates to different quantum assembly languages such as QASM.

VOLUNTEER EXPERIENCES

IOI (International Olympiad in Informatics)

July. 2016 – August. 2017

Software Developer

Tehran, Iran

- Development of task preparation system (TPS) that has been used for preparing programming tasks in International Olympiad in Informatics (IOI) 2017 in Tehran. It has both a command-line interface that developed in bash and a web interface that developed in Django. The report of this project can be found in the publications section.

OTHER ACTIVITIES

- **ACM-ICPC Asia Tehran Regional Contest 2019 Scientific Committee**
- **International Olympiad in Informatics 2017 and 2019 Host Scientific Committee**
- **International Olympiad in Informatics 2018 Task Author**
- **National Olympiad in Informatics (2015-2019) Scientific Committee**
 - * Teaching algorithms and graph theory
 - * Designing problems for training camps
 - * Preparing programming contests for selecting Iran national team