

Soroush Sahraei

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Education

School of Electrical and Computer Engineering, University of Tehran

Tehran, Iran

B.Sc. in Computer Engineering

Sep. 2022 - Present

- Current GPA: **16.08/20.00**
- Former Chair of University of Tehran ACM Student Chapter
- Related Coursework: Algorithm Design (20/20), Data Structures and Algorithms (20/20), Discrete Mathematics (20/20), Advanced Programming (19.9/20), Machines and Language Theory (19.4/20), Artificial Intelligence (18/20)

Young Scholars' Club

Tehran, Iran

INOI Summer Camp

Jun. 2021 - Aug. 2021

- The final stage of the Iranian National Olympiad in Informatics.
- Completed intensive training and examination in Algorithms, Graph Theory, and Discrete Mathematics.

Allameh Helli High School

Tehran, Iran

High School Diploma

2018 - 2022

- Attended the leading school at the National Organization for Development of Exceptional Talents (NODET).
- Admitted via a nationwide entrance exam.
- Graduated with a GPA of 19.90/20.00
- Majored in Mathematics and Physics.

Research Interests

- Algorithms
- Data Structures
- Graph Theory
- Game Theory
- Discrete Mathematics
- Computational Complexity

Publications

Geometric Freeze-Tag Problem

Detroit, Michigan, USA

S. Alipour, K. Baghestani, M. Mirzaei, S. Sahraei

2025

- Published in the proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025)

Geometric Freeze-Tag Problem

S. Alipour, A. Ahadi, K. Baghestani, S. Sahraei, M. Mirzaei

2026

- Accepted for publication in Autonomous Agents and Multi-Agent Systems (JAAMAS)

Research Experience

Tehran Institute for Advanced Studies

Tehran, Iran

Undergraduate Researcher

Aug. 2024 - Present

- Supervisor: Dr. Sharareh Alipour
- Established new upper bounds for the Geometric Freeze-Tag Problem, a variant of the problem introduced by Arkin et al. (SODA'02), in both (\mathbb{R}^3, l_1) and (\mathbb{R}^3, l_2) norms.
- Developed 2D and 3D visualizers and various simulators to model the problem space, which proved vital in reaching the final results.
- Co-authored the resulting research paper, contributing significantly to the formal mathematical proofs, writing, and designing complex 3D visualizations using LaTeX.

Honors and Awards

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|------|--|---------------------|
| 2024 | Bronze Medal , West Asia Regional ACM-ICPC Contest | ICPC Foundation |
| 2023 | Silver Medal , West Asia Regional ACM-ICPC Contest | ICPC Foundation |
| 2021 | Silver Medal , Iranian National Olympiad in Informatics | Young Scholars Club |

University Teaching Experience

Discrete Mathematics

Instructor: Dr. Siamak Mohammadi

University of Tehran

Fall 2023 – Present

- **Head Teaching Assistant** (Fall 2025 – Present)
- Coordinate a team of 29 TAs supporting over 200 students.
- Introduced new grading methods to prevent AI misuse.
- Pioneered the creation of animated content to enhance student learning.
- **Supervising & Regular Teaching Assistant** (Fall 2023 – Spring 2025)
- Designed homework assignments and quizzes and graded coursework.
- Led weekly problem-solving sessions with nearly 100 participants.

Algorithm Design

Instructor: Dr. Mohammad Javad Dousti

University of Tehran

Fall 2025 – Present

- **Head Teaching Assistant** (Fall 2025 – Present)
- Collaborate with a team of 6 TAs.
- Introduced and implemented a new grading model to address AI misuse.
- Design and organize on-site hands-on contests.
- Create high-quality educational videos.

Data Structures and Algorithms

Instructor: Heshaam Faili

University of Tehran

Spring 2024 – Present

- **Head Teaching Assistant** (Fall 2025 – Present)
- Coordinate a team of 18 TAs supporting over 180 students.
- Integrated new modules on advanced data structures to better prepare students.
- **Supervising & Regular Teaching Assistant** (Spring 2024 – Spring 2025)
- Developed and graded computer assignments and created instructional videos to aid student understanding.
- Supervised both theoretical and programming handouts.

Advanced Programming

Instructor: Dr. Ramtin Khosravi

University of Tehran

Spring 2024 – Spring 2025

- Designed, tested, and graded advanced programming projects.
- Created educational content that remains in use multiple semesters later.
- Conducted tutorial sessions on essential industry tools, including Git version control and clean code practices.
- Prototyped large-scale programming assignments under tight deadlines to validate project scope and feasibility.

Teaching & Mentorship

National Olympiad in Informatics (NOI) Preparation

Informatics Olympiad Instructor

Various NODET High Schools, Iran

Oct. 2022 - Present

- Teach advanced topics in algorithms, data structures, and graph theory to exceptional high school students in the NODET program.
- Mentor over 100 students, with more than 40 achieving national medals and 5 going on to win international medals at IOI.
- Conduct both remote and on-site sessions for students across the country.

Data Structures & Algorithms, ACM Summer of Code

Course Instructor

University of Tehran

Summer 2023 & Summer 2024

- Developed and documented a comprehensive 14-week course syllabus, accessible [here].
- Taught all course material through lectures and hands-on problem-solving sessions.
- Designed and administered weekly homework and competitive programming contests for over 110 students.

Volunteer Experience

University of Tehran ACM Student Chapter

Chapter Chair

University of Tehran

Fall 2024 – Fall 2025

- Led a chapter of over 300 active members.
- Directed the chapter to its most financially successful year in over a decade by securing new industry sponsorships.
- Grew major chapter competitions and bootcamps from university-level to nation-wide events.
- Established a self-sustaining financial model for the chapter, eliminating reliance on university and government funding.

University of Tehran ACM Student Chapter

Chapter Treasurer

University of Tehran

Fall 2023 – Fall 2024

- Managed the chapter's budget, overseeing all financial planning, expense tracking, and reporting to the university officials.
- Secured sponsorships and forged partnerships with leading Iranian tech companies to fund major chapter events.
- Sourced and procured all event materials, prizes, and hardware by establishing key relationships with vendors and product manufacturers.