

# MEHRSHAD TAZIKI

✉ [My Homepage](#)

✉ [Mehrshad00taziki@gmail.com](mailto:Mehrshad00taziki@gmail.com)

🐙 [My Github](#)

## Education

**Bachelor of Computer Science, Sharif University of Technology**

**Sep. 2020 – Present**

*GPA : 19.90/20 (Rank 1<sup>st</sup> in Computer Science Programme)*

*Tehran, Iran*

**High School Diploma in Mathematics and Physics**

**Sep. 2014 – Sep. 2020**

*National Organization for Development of Exceptional Talents (Sampad)*

*Gorgan, Iran*

## Relevant Coursework

- Combinatorial Optimization
- Algorithmic Graph Theory
- Approximation Algorithms
- Theory of Computation

## Research Experience

**Bachelor's Research Project**

**Sep 2023 – Present**

*Sharif Univeristy of Technology, Tehran, Iran*

- Working under the supervision of Prof. Shahram Khazaei and Prof. Sharareh Alipour on Uncertain K-Center Problem and different methods to approximate this problem in certain specific settings.
- Since most of the time in the real world, we need to solve a problem based on probabilistic data, the uncertain k-center problem tries to capture this by assigning each client a probability distribution over different locations rather than a deterministic single location.
- The objective now would be to allocate each client to a corresponding center as well as decide which k centers to open.

**Summer Research Program**

**Jul 2023 – Present**

*The Institute of Theoretical Computer Science and Communications, Chinese University of Hong Kong*

- Working with Prof. Amin Aminzadeh Gohari about the relative fractional independence number and it's applications to approximate the zero error capacity of graphs.
- I have developed methods for computing this number within specific graph families as well as some useful properties and theorems regarding this number. you can find these results in here.

**Research Project for Combinatorial Optimization Course**

**Jun 2023 – Jul 2023**

*Sharif Univeristy of Technology, Tehran, Iran*

- We explored various algorithms to solve this problem, including Goldberg's Algorithms, Charikar's LP, Greedy Peeling algorithm, and the recently introduced Iterative Greedy Peeling algorithm. We implemented these algorithms efficiently and conducted a computational study on each of them over a comprehensive dataset that we created. You can find the results in here or on my homepage. Additionally, you can find these implementations and our dataset on my github.

## Teaching Experiences

**Teaching Assistant** | Design of Algorithms, Instructor: Prof. Hamid Zarrabi-Zadeh

**Fall 2023**

**Teaching Assistant** | Data Structures and Algorithms, Instructor: Prof. Shahram Khazaei

**Fall 2023**

**Teaching Assistant** | Theory of Languages and Automata, Instructor: Prof. Amir Daneshgar

**Fall 2023**

**Teaching Assistant** | Foundation of Mathematics, Instructor: Prof. Mohammad Ardeshtir

**Spring 2023**

**Head Teaching Assistant** | Basic Programming, Instructor: Prof. Mojtaba Tefagh

**Fall 2022**

**Teaching Assistant** | Data Structures and Algorithms, Instructor: Prof. Alireza Zarei

**Fall 2022**

**Teaching Assistant** | Theory of Languages and Automata, Instructor: Prof. Ali Movaghar

**Fall 2022**

**Head Teaching Assistant** | Linear Algebra, Instructor: Prof. Mohsen Djamali

**Fall 2022**

## Work Experience

**Iran's Mathematics Olympiad**

**Nov 2022**

*Grading Exams*

*Tehran, Iran*

- I Graded Combinatorics and Graph Theory Questions for Iran's Mathematics Olympiad.

**Olympiad in Informatics Teacher**

**Sep 2021 – Sep 2022**

*National Organization for the Development of Exceptional Talents (Sampad)*

*Gorgan, Iran*

- I Taught Combinatorics, Graph Theory, and Algorithms Design to students in order to prepare them for Iran's Informatics Olympiad.

## Relevant Courses

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Approximation Algorithms <sup>+</sup> (Graduate)   Ongoing	Fall 2023
Randomized Algorithms <sup>+</sup> (Graduate)   Ongoing	Fall 2023
Algorithms and Computation Seminar <sup>+</sup> (Graduate)   Ongoing	Fall 2023
This Seminar Is Mainly Focused on Augmentation Problems, Especially, Tree and Cactus Augmentation Problems.	
Operational Research   Ongoing	Fall 2023
Combinatorial Optimization   20/20	Spring 2023
Theory of Computation   20/20	Spring 2023
Analysis of Algorithms   20/20	Spring 2023
Game Theory   20/20	Fall 2022
Artificial Intelligence   20/20	Fall 2022
Graph Theory and Applications   20/20	Spring 2022
Theory of Languages and Automata   20/20	Spring 2022
Mathematical Logics   20/20	Spring 2022
Data Structures and Algorithms   20/20	Fall 2021

## Technical Skills

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<b>University Mentor for New Students</b> <i>Provided guidance and support to new students during their transition to university life.</i>	<b>Sharif University of Technology</b>
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<b>Environmental Enthusiasts Scientific Association</b> <i>Participated in environmental awareness campaigns and events on and off campus.</i>	<b>Sharif University of Technology</b>
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## Leadership / Extracurricular

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<b>Fraternity</b> <i>President</i>	<b>Spring 2020 – Present</b> <i>University Name</i>
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- Achieved a 4 star fraternity ranking by the Office of Fraternity and Sorority Affairs (highest possible ranking).
- Managed executive board of 5 members and ran weekly meetings to oversee progress in essential parts of the chapter.
- Led chapter of 30+ members to work towards goals that improve and promote community service, academics, and unity.

## Computer Skills

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|--------------------------|-----------------------------------|
| • Java <b>Advanced</b>   | • C++ <b>Advanced</b>             |
| • Python <b>Advanced</b> | • $\text{\LaTeX}$ <b>Advanced</b> |

## Languages

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| • Persian <b>Mother-tongue</b> | • English <b>Fluent</b> |
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