Seyedehzeinab Pishbin

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Education

Université Paris Dauphine-PSL   *Paris, France*
MASTER'S IN ARTIFICIAL INTELLIGENCE, SYSTEMS AND DATA   *Sep. 2025 - Sep.2026*

School of Electrical and Computer Engineering, University of Tehran   *Tehran, Iran*
B.SC. IN COMPUTER ENGINEERING   *Sep. 2020 - Feb. 2025*

Publications

[W1] Strategic Merging of Project Proposals in Participatory Budgeting

P. Faliszewski, Ł. Janeczko, G. Lisowski, G. Pierczyński, Z. Pishbin

[C2] Fairness in the Multi-Secretary Problem

G. Papasotiropoulos, Z. Pishbin

- In Proceedings of the 40th AAAI Conference on Artificial Intelligence (**AAAI**), 2026

[C1] Method of Equal Shares with Bounded Overspending

G. Papasotiropoulos, SZ. Pishbin, O. Skibski, P. Skowron, T. Wąs

- In Proceedings of the 26th ACM Conference on Economics and Computation (**ACM-EC**), 2025

Research Internships

Université Paris Dauphine-PSL   *Paris, France*
SUPERVISOR: *Dominik Peters*   *Oct 2025 - Present*

- Exploring the axiomatic properties of Single Transferable Vote (STV) variants, focusing on Meek's and Warren's rules. I am analyzing how their handling of vote transfers impacts proportionality and evaluating performance against key fairness criteria.

University of Warsaw   *Warsaw, Poland*
SUPERVISOR: *Piotr Skowron*   *Jun. 2024 - Aug. 2025*

- Introduced the Method of Equal Shares with Bounded Overspending (BOS) for participatory budgeting; a polynomial-time algorithm that balances proportionality and efficiency while satisfying key fairness axioms. My main contribution was identifying the EJR-approximation guarantee, the paper's central theoretical result.

- Analyzed project merging in participatory budgeting using cooperative game theory, studying stability under rules like BasicAV, constraints from compatibility graphs, computational complexity, and effects on social welfare. I conducted the experimental analysis and contributed to the definitions and a practical implementation for real-world use.

- Studied online multi-winner elections with cardinal ballots (multi-secretary setting), designing new online mechanisms. I defined several mechanisms based on offline methods and implemented the experiments.

Tehran Institute for Advanced Studies   *Tehran, Iran*
SUPERVISOR: *Masoud Seddighin*   *Jun. 2023 - Feb. 2025*

- Inspired by the paper of *Anari et al. (2023)*, we focused on optimizing the upper bound of distortion in metric matching with ordinal preferences; our work resulted in a significant improvement over the previous bound of n^2 in metric space. We were able to achieve a constant upper bound on distortion for the restricted case of line metric, and an $O(n)$ upper bound for the tree metric.

Talks

Fairness in the Multi-Secretary Problem   *Singapore, Singapore*
40th AAAI Conference on Artificial Intelligence   *Jan. 2026*

Method of Equal Shares with Bounded Overspending   *Vienna, Austria*
10th International Workshop on Computational Social Choice   *Sep. 2025*

Honors & Awards

Excellence Scholarship   *2025*
École Normale Supérieure (ENS-PSL)
Scholarship from the ENS Graduate Program in Computer Science for the academic year 2025–2026.

Iranian National Olympiad in Informatics   *Top 1%*
Young Scholars Club   *2019*
- Placed among the top 80 out of more than 7,000 participants in the Iranian National Olympiad in Informatics.

Work Experience

Software Engineer   *Tehran, Iran*
Sotoon Co.   *Oct. 2022 - Jun. 2023*
- Worked as a software engineer in the integration backend team of Sotoon, a privately held company in *Hezardastan Group*.
- Among my projects, I designed and developed an automated billing system using Django, a high-level Python web framework, to streamline invoice generation and management. The system integrates with customer data, usage metrics, and service details, issuing invoices on a scheduled monthly basis. It ensures data integrity and real-time processing with Apache Druid SQL, significantly reducing errors and improving efficiency.

SRE Summercamp   *Tehran, Iran*
Sotoon Co.   *Jul. 2022 - Sep. 2022*
- A summer school to educate and foster SRE skills, including Kubernetes, Docker, databases, caching, monitoring, and CDN.

Teaching Experience

Discrete Mathematics
University of Tehran
- Chief Teaching Assistant   Fall 2023 - Spring 2024
- Teaching Assistant   Spring 2022 - Spring 2023

Algorithm Design
University of Tehran
- Chief Teaching Assistant   Spring 2024 - Fall 2025
- Teaching Assistant   Fall 2023

Data Structures
University of Tehran
- Teaching Assistant   Spring 2022 - Spring 2024

Introduction to Computing Systems and Programming
University of Tehran
- Teaching Assistant   Fall 2022 - Spring 2024

Language Certificate

English   *Oct. 2024*
Academic IELTS: 7.5/9 [L: 8.0, R: 7.5, S: 7.0, W: 6.5]