ANDISHEH (ELAHE) GHASEMI

Northeastern University, Boston, MA

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PROFESSIONAL SUMMARY

Doctoral researcher in Computer Science, specializing in theoretical computer science and algorithm design. Published researcher with work accepted at ICALP (2022, 2025) and Algorithmica, focusing on communication complexity, online algorithms, and graph theory. International research experience across leading institutions. Seeking opportunities to apply algorithmic expertise and theoretical insights to solve complex computational challenges in research and practical settings.

EDUCATION

Northeastern University   *expected 2028*
PhD in Computer Science
Supervisors: Rajmohan Rajaraman, Mahsa Derakhshan

Université Paris Cité   *2023*
M.Sc. in Computer Science
Parisian Master of Research in Computer Science (MPRI)

Sharif University of Technology   *2022*
B.Sc. in Computer Science
Department of Mathematical Sciences

PROFESSIONAL EXPERIENCES

Doctoral Researcher   Jan 2024 - Present
Supervisors: Rajmohan Rajaraman, Mahsa Derakhshan   *Boston, MA*

· Researched the communication complexity of the Minimum Vertex Cover problem, advancing theoretical frameworks. Published findings at ICALP 2025.
· Researching on correlation clustering, focusing on designing efficient algorithms for clustering with minimal disagreements, with applications in data analysis and network science.
· Researching on online stochastic matching problem with patience constraints.

Graduate Researcher   April - September 2023
Supervisor: Chien-Chung Huang   *Paris, France*

· Formulated innovative solutions to address constraints in job scheduling problem.

Undergrad Researcher   September 2021 - March 2022
Supervisor: Vincent Jugé   *Paris, France*

· Enhanced theoretical understanding of merging sub-routines, influencing practical implementations like Timsort. Published results in the International Colloquium on Automata, Languages, and Programming (ICALP), a leading conference in theoretical computer science, and in Algorithmica, a prominent journal in algorithms research.

Undergrad Researcher   March 2021 - April 2022
Supervisor: Javad Ebrahimi

· Investigated the properties of entropic submodular functions, advancing theoretical insights. Presented findings in academic seminars.

PUBLICATIONS

- Mahsa Derakhshan, Andisheh Ghasemi, Rajmohan Rajaraman. One-way Communication Complexity of Minimum Vertex Cover in General Graphs. To be presented at *ICALP* 2025.

- Elahe Ghasemi, Vincent Jugé, and Ghazal Khalighinezhad, Helia Yazdanyar. Galloping in Fast-Growth Natural Merge Sorts. In *Algorithmica* 2024. Originally presented at *ICALP* 2022.

- Mohammad Rashid, Elahe Ghasemi, and Javad B Ebrahimi. Entropic weighted rank function. In *IWCIT* 2022.

ACHIEVEMENTS

- Ranked 60th among 148,429 participants in national university entrance examination (Konkour)

- Granted PGSM (Paris Graduate School of Mathematics) scholarship of Fondation Sciences Mathmatiques de Paris

PROFESSIONAL CERTIFICATES

- **IBM Data Science Professional Certificate** – Coursera, *2025* [Verify]
  Comprehensive training in Python, R, SQL, machine learning, and data visualization with hands-on projects.

TEACHING ASSISTANT EXPERIENCES

Algorithms, *Mahsa Derakhshan, Northeastern University*	Fall 2024
Algorithms Design, *Masood Seddighin, Sharif University of Technology*	Spring 2021
Operating Systems, *Hadi Foroughmand, Sharif University of Technology*	Spring 2021
Theory of Languages & Automata, *Javad Ebrahimi, Sharif University*	Fall 2020
Designing Algorithms, *Morteza Alimi, Sharif University of Technology*	Spring 2020
Data Structures, *Morteza Alimi, Sharif University of Technology*	Fall 2019

OTHER EXPERIENCES

Peer Review - APPROX Conference *reviewer*	Summer 2023 *Paris, France*
Peer Review - FOCS Conference *reviewer*	Spring 2025 *Boston, USA*
Theory Group Seminar at Northeastern University *Co-organizer*	Fall 2024 - Present *Boston, MA*

SKILLS & LANGUAGES

Python, R, Java, JavaScript, HTML, SQL, LaTeX