

ANDISHEH (ELAHE) GHASEMI

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PROFESSIONAL SUMMARY

Dedicated and detail-oriented doctoral researcher in Computer Science at Northeastern University, specializing in theoretical computer science and algorithm design. Experience in researching and solving complex problems in learning augmented algorithms, online algorithms, and graph algorithms with a strong foundation in mathematics and computational theory. Passionate about using analytical and programming skills to contribute to innovative solutions in academia and industry.

EDUCATION

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

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

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

PROFESSIONAL EXPERIENCES

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

- Conducted research on the communication complexity of the Minimum Vertex Cover problem, advancing theoretical frameworks and contributing to the understanding of distributed computing challenges.
- Explored algorithmic trade-offs in distributed systems, providing insights that can optimize resource allocation and scalability in real-world applications. Authored and submitted findings to the ACM Symposium on Theory of Computing (STOC).
- Initiated research on correlation clustering, focusing on designing efficient algorithms for clustering with minimal disagreements, with applications in data analysis and network science.

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

- Formulated innovative solutions to address constraints in assembly and job scheduling, improving throughput in computational environments.

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

- Derived upper bounds for PowerSort and PeekSort algorithms, optimizing efficiency for sorting tasks in data processing.

- 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

Supervisor: Javad Ebrahimi

March 2021 - April 2022

Tehran, Iran

- Investigated the properties of entropic submodular functions, advancing theoretical insights.
- Designed novel approaches to characterize rank functions, contributing to the development of more efficient algorithms for submodular optimization problems. Presented findings in academic seminars.

Frontend Developing Internship

Shab Company

May 2020 - August 2020

Tehran, Iran

- Developed and deployed dynamic web components using HTML, CSS, JavaScript, and React, improving user engagement.
- Collaborated in an Agile team environment, ensuring timely delivery of project milestones.

PUBLICATIONS

- 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 of Iran (Konkour)
- Granted PGSM (Paris Graduate School of Mathematics) scholarship of Fondation Sciences Mathématiques de Paris

TEACHING ASSISTANT EXPERIENCES

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

OTHER EXPERIENCES

Peer Review - APPROX Conference <i>reviewer</i>	Summer 2023 <i>Paris, France</i>
Theory Group Seminar at Northeastern University <i>Co-organizer</i>	Fall 2024 - Spring 2025 <i>Boston, MA</i>