

ANDISHEH (ELAHE) GHASEMI

Northeastern University, Boston, MA
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PROFESSIONAL SUMMARY

Doctoral Researcher in Computer Science with a strong foundation in algorithms, optimization, and data-driven problem solving. Experienced in developing efficient clustering, scheduling, and graph algorithms, and implementing scalable systems in Python, Java, and React. Published in top venues and passionate about applying algorithmic thinking to real-world engineering challenges.

EDUCATION

Northeastern University *expected May 2027*
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

- Visiting Graduate Student** *Fall 2025*
Simons Institute, UC Berkeley *Berkeley, CA*
- Participated in research program on algorithmic foundations for emerging computing technologies
- Doctoral Researcher** *Jan 2024 - Present*
Supervisors: Rajmohan Rajaraman, Mahsa Derakhshan *Boston, MA*
- Designed and analyzed efficient algorithms for clustering and graph optimization problems
 - Applied online learning and stochastic optimization techniques to improve decision-making under uncertainty
- Graduate Researcher** *April - September 2023*
Supervisor: Chien-Chung Huang *Paris, France*
- Formulated innovative solutions to address constraints in job scheduling problem.
- Undergrad Researcher** *Sep 2021 - Mar 2022*
Supervisor: Vincent Jugé *Paris, France*
- Designed and analyzed efficient merging routines, with applications to real-world sorting algorithms like Timsort. Published at ICALP and Algorithmica.
- Frontend Developer Intern** *Summer 2021*
Shab Company
- Developed interactive UI components using HTML, CSS, JavaScript, and React
 - Collaborated with engineering team to improve user experience and frontend performance

PROJECTS

Algorithm Visualizer Platform

React, TypeScript, SVG, JavaScript

Built interactive web app visualizing 17+ algorithms (sorting, graph search, clustering) with real-time animation, Implemented dynamic graph editor with user-driven node/edge manipulation and visual complexity metrics, Designed educational clustering visualizations (e.g., Pivot) demonstrating streaming and online data processing

Bomberman Multiplayer Game

Java, Swing, Networking, Concurrency

Developed multiplayer network game using custom TCP/IP protocol for real-time interaction, Designed AI enemies with pathfinding and state machine logic; implemented thread-safe synchronization

PUBLICATIONS

- Mahsa Derakhshan, Andisheh Ghasemi, Calum MacRury. Approximation Algorithms for Action-Reward Query-Commit Matching. In Submission.
- Mahsa Derakhshan, Andisheh Ghasemi, Rajmohan Rajaraman. One-way Communication Complexity of Minimum Vertex Cover in General Graphs. 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.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, SQL
Frameworks: React, Node.js, Flask, OR-Tools
Tools: Git, Linux, VSCode, PyCharm

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.

ACHIEVEMENTS

- Ranked 60th among 148,429 participants in national university entrance examination (Konkour)
- Granted PGSM (Paris Graduate School of Mathematics) scholarship of Fondation Sciences Mathématiques de Paris

OTHER EXPERIENCES

Theory Group Seminar at Northeastern University

Organizer

Teaching Assistant

Algorithms, Automata, Data Structure

Northeastern University, Sharif University

Peer Review

APPROX 2023, FOCS 2025, SOSA 2025