Farzam Ebrahimnejad

Symbolica AI
San Francisco, CA

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Last Update: Jan. 17, 2025

EDUCATION

◇ **Ph.D. Degree in Computer Science and Engineering** — Sept. 2017 – June 2024
Paul G. Allen School of Computer Science & Engineering
University of Washington
Advisors: Shayan Oveis Gharan and James R. Lee

◇ **M.Sc. Degree in Computer Science and Engineering** — Sept. 2017 – June 2023
Paul G. Allen School of Computer Science & Engineering
University of Washington
Advisors: Shayan Oveis Gharan and James R. Lee

◇ **B.Sc. Degree in Computer Engineering** — Sept. 2013 – July 2017
Department of Computer Engineering
Sharif University of Technology

TEACHING AND WORKING EXPERIENCE

◇ **ML Research Scientist at Symbolica AI** — June 2024 - present
Conducting research on innovative reasoning systems designed to prove mathematical theorems. Primarily focused on text diffusion models and reinforcement learning, with responsibilities including the design, implementation, training, and iterative development of novel transformer-based models and architectures.

◇ **Research Software Engineering Intern at Uber, San Francisco** — Fall 2022
Conducted machine learning research to develop novel deep neural networks to optimize Uber's riding pricing strategy.

◇ **Teaching Special Topics in Mathematics and Computer Science** — 2013 – 2014
Teaching topics such as combinatorics, graph theory, and algorithms to high school students preparing for the Olympiad in Informatics.

◇ **Software/ML Engineer at Torob** — 2014 – 2017
Torob is an Iranian price comparison and shopping search engine. I was responsible for the design and implementation of efficient machine learning algorithms for Torob's query analyzer and suggestion service.

PUBLICATIONS

◇ **On approximability of the permanent of PSD matrices**
Farzam Ebrahimnejad, Ansh Nagda, Shayan Oveis Gharan
Under Review, 2024

◇ **Non-existence of annular separators in geometric graphs**
Farzam Ebrahimnejad, James R. Lee
Discrete & Computational Geometry, 2023

◇ **Multiscale entropic regularization for MTS on general metric spaces**
Farzam Ebrahimnejad, James R. Lee
ITCS 2022

◇ **Counting and sampling perfect matchings in regular expanding non-bipartite graphs**
Farzam Ebrahimnejad, Ansh Nagda, Shayan Oveis Gharan
ITCS 2022

◇ **On planar graphs of uniform polynomial growth**
Farzam Ebrahimnejad, James R. Lee
Probability Theory and Related Fields, 2021

◇ **On the gap between separating words and separating their reversals**
Farzam Ebrahimnejad
Theoretical Computer Science, 2018

PRESENTATIONS	◇ **On approximability of the permanent of PSD matrices** UW Theory Seminar, Seattle, WA	May 2024
	◇ **Multiscale entropic regularization for MTS on general metric spaces** ITCS 2022, Berkley, CA (online talk)	Feb 2022
	◇ **On planar graphs of uniform polynomial growth** Random Geometry and Statistical Physics Online Seminar	May 2021
	◇ **On planar graphs of uniform polynomial growth** UW Theory Seminar, Seattle, WA	June 2019
	◇ **On the gap between separating words and separating their reversals** Combinatorics, Automata and Number Theory School, Marseille, France	Dec. 2016

HONORS AND AWARDS	◇ **2nd place** in the *17th* Asia Regional ACM-ICPC, Tehran, Iran	2015
	◇ **2nd place** in the *16th* Asia Regional ACM-ICPC, Tehran, Iran	2014

LONG-TERM VISITS	◇ **Geometry of Polynomials Program** Simons Institute for the Theory of Computing, Berkeley, CA	Winter 2019

SERVICE ◇ Reviewer: FOCS, SODA, SIAM Journal on Computing (SICOMP).

SKILLS ◇ Programming Languages: Python, C/C++, Julia, Matlab.