Farzam Ebrahimnejad

Symbolica AI
San Francisco, CA

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Last Update: Dec. 2, 2024

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

◇ **Research Scientist at Symbolica AI** June 2024 - present
Doing research on novel reasoning systems capable of proving mathematical theorems. My research has involved reinforcement learning, and designing, training and experimenting on transformer-like architectures and text diffusion models.

◇ **Research Software Engineer Intern at Uber, San Francisco** Fall 2022
Worked on machine learning and deep learning algorithms to optimize 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 Developer at Torob** 2014 – 2017
Torob is an Iranian price comparison and shopping search engine. I worked on 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	Jan.-Feb. 2019

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

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