

CV of Sharareh Alipour

Department of computer science,
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Research Interests Design and Analysis of Algorithms, Approximation and Randomized Algorithms, Sub-linear Algorithms, Computational Geometry, Graph Theory and its Applications, Combinatorial Optimization, Data Science, Distributed Computing and Network Algorithms.

Employments **Department of computer science,
Tehran Institute for Advanced Studies (TeIAS)
Tehran, Iran**

Assistant Professor Feb. 2022 – now

**School of computer science,
Institute for research in fundamental sciences
Tehran, Iran**

Senior Postdoc fellow Nov. 2019 – Feb. 2022

**School of computer science,
Institute of science and technology
Vienna, Austria**

Postdoc visitor May. 2019 – May. 2020

**School of computer science,
Institute for research in fundamental sciences
Tehran, Iran**

Postdoc fellow Nov. 2016 – Nov. 2019

Education **Sharif University of Technology (SUT), Tehran, Iran**

Ph.D. in Computer Engineering Sept. 2011 – September. 2016
Thesis: “Efficient Algorithms for Visibility Testing of Objects and Counting”
Advisor: Dr. Mohammad Ghodsi

M.S. in Computer Science Sept. 2009 – August. 2011
Thesis: “Visibility Counting and Testing”
Advisor: Dr. Alireza Zarei

B.S. in Computer Science Sept. 2005 – August. 2009
Thesis: “Study of Hurst Parameter Estimation of Network Traffic”
Advisor: Dr. Amir Hossein Jahangir

Honors and Awards Ranked 1st among Iran’s Ph.D. university entrance exam participants 2011
Ranked 22nd among 1,000 participants in M.S. program entrance exam for Computer Science. 2009
Ranked 921st among 343,000 of Iran’s university entrance exam participants 2005

Publications

Alipour, S., Elahimanesh, S., Neshayi, P., Jahanzad, S., Morasafar, P., “A Blockchain Approach to Academic Assessment”. *Accepted in CHI2022, Late-Breaking Work*

Alipour, S., Parsa, S., “Hardness of Segment Cover, Contiguous SAT and Visibility with Uncertain Obstacles” *Accepted in Discrete Mathematics, Algorithms and Applications, DMAA. 2022*

Alipour, S., “Improvements on approximation algorithms for clustering probabilistic data”. *Knowl. Inf. Syst. 63(10): 2719-2740 (2021)*

Alipour, S., “On guarding polygons with holes”. *Accepted in CCCG2021 348-350. 2021*

Sheikhi, F., Alipour, S., “A Geometric Algorithm for Fault-Tolerant Classification of COVID-19 Infected People”. *CSICC 2021: 1-5.2021*

Alipour, S., “Approximation algorithms for probabilistic k -center clustering”. *ICDM 2020: 1-11. 2020*

Alipour, S., Parsa, S., “Hardness of Segment Cover, Contiguous SAT and Visibility with Uncertain Obstacles” *COCOA 2020: 350-363. 2020*

Alipour, S., Jafari, A., “Brief Announcement: A local constant approximation factor algorithm for minimum dominating set of certain planar graphs”. *SPAA 2020: 501-502. 2020*

Alipour, S., Jafari, A., Saghafian, M., “Upper bounds for k -tuple (total) domination numbers of regular graphs”. *Bulletin of Iranian mathematical society, 2019*

Alipour, S., Jafari, A., “Upper bounds for domination numbers of graphs using Turán’s theorem and Lovász local lemma”. *Graphs and Combinatorics, 2019*

Abam, M., Alipour, S., Ghodsi, M., Mahdian, M., “Visibility Testing and Counting for Uncertain Segments”. *Theoretical Computer Science, 779: 1-7 (2019)*.

Alipour, S., Jafari, A., “Improvements on the k -center problem for uncertain data”. *PODS 2018: 423-433, 2018*.

Alipour, S., Ghodsi, M., Jafari, A., “Randomized approximation algorithms for Planar visibility counting problem”. *Theoretical Computer Science, 707: 46-55 (2018)*.

Abam, M., Alipour, S., Ghodsi, M., Mahdian, M, “Visibility Testing and Counting for Uncertain Segments”. *CCCG: 84-88*, 2017.

Jafari, A.,Alipour, S,“On Chromatic Number of Generalized Kneser Graphs”. *Contributions to Discrete Mathematics* 12(2), 2017.

Alipour, S., Ghodsi, M., Gudukbay, U., Golkari, M, “An Approximation Algorithm for Computing the Visibility Region of a Point on a Terrain and Visibility testing,” *Applied Geomatics*, 9 (1), 53-59, 2017.

Alipour, S., Ghodsi, M., Jafari, A, “An improved Constant-Factor Approximation Algorithm for Planar Visibility Counting Problem”. *COCOON 2016.* , 209–221, 2016.

Abam, M., Alipour, S., Ghodsi, M., Mahdian, M, “Visibility Testing and Counting for Uncertain Segments,” accepted in *EUROCG2016*, 2016.

Alipour, S., Ghodsi, M., Zarei, A., Pourrezza, M, “Visibility testing and counting,” *Information Processing Letters*, 115(5), 649–654 doi:10.1016/j.ipl.2015.03.009 , 2015.

Nouri Bygi, M., Daneshpajouh, S., Alipour, S., Ghodsi, M.,“ Weak visibility counting in simple polygons,” *J. Computational Applied Mathematics* 288: 215-222, 2015.

Alipour, S., Ghodsi, M., Gudukbay, U., Golkari, M, “An Approximation Algorithm for Computing the Visibility Region of a Point on a Terrain and Visibility testing,” in *VISSAPP*, 2014.

Alipour, S., Ghodsi, “Approximation and randomized method for Visibility Counting Problem,” in *International symposium on Computer Science and Software Engineering- Tehran- Iran*, 2013.

Alipour, S., Mahmoodian, E. S., Mollaahmadi, E, “On decomposing complete tripartite graph into 5cycles,” in *Australasian Journal of Combinatorics, Volume 54, 289–301*, 2012.

Alipour, S., Zarei, A, “Visibility testing and counting,” in *Frontiers in Algorithmics and Algorithmic Aspects in Information and Management Lecture Notes in Computer Science, Volume 6681, 343-351*, 2011.

Research Experience

Computing diameter of a point set, Advisor: Prof Bahman Kalantari, Rutgers University Summer 2014

This work was done while I was a research visitor at DIMACS, Rutgers University.

Visibility problems in 3D, Advisor: Prof Ugur Gudukbay, Bilkent University Summer 2013

This work was done while I was a research visitor at Computer Engineering Department

of Bilkent University in Turkey.

Forced matching in grids, Advisor: Prof Ebadollah Mahmoodian, Math department, Sharif University 2010 - 2011

Study of hurst parameter estimation of network traffic, Advisor: Prof. A .H. Jahangir, Computer Eng department, Sharif University 2009 - 2010

This work was done in the following of my B.S thesis.

Teaching and Work Experiences

Teaching, Computer Programming Language, c and c++, Sharif university of Technology, International campus, Kish Fall 2021

Teaching, Data structures and algorithms, Sharif university of Technology, Tehran Fall 2020

Teaching, Distributed algorithms seminar (Graduate course), Sharif university of Technology, Tehran Spring 2018

Teaching, Data structures and algorithms, Sharif university of Technology, Tehran Fall 2018

Teaching, Computer Programming Language, c and c++, Shahid Beheshti university of Technology, Tehran Fall 2018

Teaching, Graph theory (Graduate course), Sharif university of Technology, Tehran Fall 2017

Teaching, Discrete math, Sharif university of Technology, Tehran Spring 2017

Teaching, Computer Programming Language, Python, Sharif university of Technology, Tehran International Campus Fall 2016

Teaching, Discrete math, Sharif university of Technology, Tehran Spring 2016

Teaching Assistant, Advanced Combinatorics (Graduate course), Sharif university of Technology, Tehran Spring 2016

Teaching, Computer Programming Language, Java, Sharif university of Technology, Tehran International Campus Fall 2015

Teaching, Data structure and algorithms, Sharif university of Technology, Tehran Fall 2015

Teaching Assistant, Advanced Graph Theory and Randomized Algorithms(Graduate course), Sharif University of Technology, Tehran Fall 2014

Mentoring, REU program in DIMACS, Rutgers University Summer 2014

Teaching Assistant, Randomized Algorithms (Graduate course), Sharif University of Technology, Tehran Fall 2013

Teaching, Computer Programming Language, Java and Pascal, Sharif university of Technology, Tehran Fall 2013

Teaching, Computer Programming Language, Pascal, Sharif university of Technology, Tehran International Campus 2012-2013

Teaching Assistant, Computational Geometry(Graduate course), Sharif University of Technology, Tehran Spring 2012

Teaching, Computer Simulation, Computer Architecture, Artificial Intelligence, Network and Operating Systems, Zorandieh Institute of Higher Education, Zorandieh, Iran 2010-2011

Working as a game designer for children, Dibaye Publishing Company, Tehran, Iran 2009-2011

Teaching, Computer Programming Language C++, Farzanegan high school, Urmia, Iran Summer 2005

Talks

Visibility Counting Problem, Women in Theory (WIT) Workshop, Princeton University June 2014

Visibility, Graph Theory and Probability, REU program, DIMACS, Rutgers University July 2014

Grants and funds Travel fund to participate in the Topology and Geometry in a Discrete Setting workshop, ICERM 2016
Travel fund to participate in the Women in Theory workshop, Princeton University 2014

Languages Native Languages: Persian and Turkish
Fluent in English

Computer Skills Packages: Matlab, Modelsim, Microsoft Office Software Family, LaTeX
Languages: C/C++, Python, Java
Operating Systems: Unix/Linux, MacOS X, Windows

Extracurricular Activities and Hobbies Member of Sharif University handball team.
Member of Sharif University gymnastic team.
Painting
Reading

References References will be provided on demand.