



S. Mehdi Vahidipour

Assistant Professor

Computer Engineering Department,
Faculty of Electrical and Computer Engineering
University of Kashan

Tel.: +98 31 5591 3471, E-Mail: vahidipour@kashanu.ac.ir

<https://faculty.kashanu.ac.ir/vahidipour/>
<https://orcid.org/0000-0002-1526-0089>

EDUCATION

PhD, Computer Engineering, 2016.

Thesis: Hybrid Machines based on Petri Nets and Learning Automata and their Applications,

Advisor: Prof. M. R. Meybodi,
Amirkabir University of Technology, Tehran, Iran,
GPA: 16.88 out of 20.

M.S., Computer Engineering, 2003,

Thesis: Graph Drawing using Evolutionary Multi-Objective Optimization Methods,

Advisor: Prof. M. Zolghadr,
University of Shiraz, Shiraz, Iran,
GPA: 16.98 out of 20.0.

RESEARCH INTERESTS

- Knowledge Graph
- Graph Representation Learning;
- Complex Networks, Social network Analysis, Community Detection;
- Big data, Map-reduce, spark;
- Soft Computing, Learning automata, Adaptive Systems;
- Petri nets, Adaptive Petri nets;

AWARDS AND HONORS

- The best Researcher of the year award from Kashan University, 2007.
- The best Researcher of the year award from Kashan University, 2010.
- The best researcher in the faculty of electrical and computer engineering, Kashan University, 2019.

PUBLICATIONS

67. S. M. Vahidipour, M. Sadegh, A. Bahrami, and M. Zeinali, “Comparison of Bizagi and Oracle Express with Barsa System Builder in Enterprise Software Development: A Selection Guide for Organizations”, *8th Iranian Conference on Advances in Enterprise Architecture*, Tarbiyat Modares University, Tehran, Iran, 2024 (Accepted).
66. M. S. Dadiyan, M. B. Shahmir, N. Moalemi, M. Bidram, and S. M. Vahidipour, “MAG-GNN-PRGS: Graph Neural Network Enhanced by Reinforcement Learning through Scoring”, *19th Iranian Conference on Intelligent Systems*, Sirjan University, Iran, 2024 (Accepted).
65. N. Alinia, S. Rahati, Z. Jafari Tadi, M. J. Zargari, and S. M. Vahidipour, “Newpixie: Presenting a method based on the use of strong dependency rules in Pixie recommender system”, *Soft Computing Journal*, 2024 (will be published).
64. S. M. Vahidipour, D. Daneshmand, M. A. Zarif, and, “An Overview of Embedding Approaches for Knowledge Graphs”, *Soft Computing Journal*, 2024, doi: [10.22052/scj.2024.254464.1224](https://doi.org/10.22052/scj.2024.254464.1224).
63. M. Ghanbari, F. Dehghani, and S. M. Vahidipour, “Influence maximization using Genetic Algorithm”, *Computing Science Journal (CSJ), Informatics Society of Iran*, vol. 9, no. 2, pp. 35-49, 2024, doi: [20.1001.1.2538161.1403.9.2.3.4](https://doi.org/20.1001.1.2538161.1403.9.2.3.4).
62. A. Amini, M. Naeimi, M. Bidram, and S. M. Vahidipour, “Struct2vec+k: Structural Graph Embedding with Layer Aggregation”, *The 10th International Conference on Web Research (ICWR)*, Tehran, 2024.
61. A. Beiranvand, M. Nadali, A. Takhtkesh, and S. M. Vahidipour, “Automatic Metapath Generating in Heterogenous Graphs for Representation Learning”, *The 10th International Conference on Web Research (ICWR)*, Tehran, 2024.
60. R. Karami and S. M. Vahidipour, “Link prediction framework using graph neural network based on subgraph”, *Soft Computing Journal*, pp. 1-20, 2024, doi: [10.22052/scj.2024.253458.1179](https://doi.org/10.22052/scj.2024.253458.1179).
59. S. M. Vahidipour and A. Mohamadi, “Link prediction in scientific networks using machine learning and weighted graphs”, *Soft Computing Journal*, pp. 1-33, 2024, doi: [10.22052/scj.2024.253476.1181](https://doi.org/10.22052/scj.2024.253476.1181).
58. M. Ghanbari, S. M. Vahidipour, and F. Dehghani, “Influence Maximization in social networks using genetic algorithm”, *the fifth National Informatics Conference of Iran, IPM*, Tehran, 2024.

57. S. M. Vahidipour et. al., “Improved GraphZoom; A framework for graph representation learning”, the fifth National Informatics Conference of Iran, IPM, Tehran, 2024.
56. S. M. Vahidipour and Z. Salimiyani, “Community Detection in Complex Networks Using Learning Automata”, *Journal of Soft Computing and Information Technology (JSCIT)*, vol. 12, no. 3, pp. 1-16, 2023.
55. A. Rezvaniyan, S. M. Vahidipour, and A. M. Saghiri, “CaAIS: Cellular Automata-Based Artificial Immune System for Dynamic Environments”, *Algorithms*, vol. 17, no. 1, p. 18, 2023.
54. Y. Mashayekhi, A. Rezvaniyan, and S. M. Vahidipour, “A novel regularized weighted estimation method for information diffusion prediction in Social networks”, *Applied Network Science*, vol. 8, no. 1, p. 81, 2023, <https://doi.org/10.1007/s41109-023-00605-z>.
53. A. Rezvaniyan and S. M. Vahidipour, “Monitoring science and technology in the field of cyber security”, *The second Conference on Cyberspace (CYSP2023)*, University of Tehran, Tehran, Nov. 2023.
52. A. Rezvaniyan, S. M. Vahidipour, A. Sadollah, “An Overview of Ant Colony Optimization Algorithms for Dynamic Optimization Problems”, *Ant Colony Optimization - Recent Variants, Application and Perspectives*, IntechOpen, 2023.
51. S. M. Vahidipour and Z. Salimian, “Community Detection in Complex Networks Using Learning Automata”, *Journal of Soft Computing and Information Technology, Babol Noshirvani University of Technology*, 2023.
50. A. Rezvaniyan, S. M. Vahidipour, and M. R. Meybodi, “A new stochastic diffusion model for influence maximization in social networks”, *Scientific Reports (nature publication group)*, vol. 13, no. 6122, 2023. <https://doi.org/10.1038/s41598-023-33010-8>.
49. F. Rahimzadeh, A. Khodadoust, S. M. Vahidipour, and J. Salimi, “Improving process discovery based on Alpha algorithm using Map-Reduce”, *6th Iranian Conference on Advances in Enterprise Architecture*, Beheshti University, Tehran, Iran, Nov. 2022.
48. A. Khodadoust, F. Rahimzadeh, S. M. Vahidipour, and J. Salimi, “Designing a framework for process discovery and implementation of a hybrid approach based on it”, *6th Iranian Conference on Advances in Enterprise Architecture*, Beheshti University, Tehran, Iran, Nov. 2022.
47. M. Memari, S. Nikandish, S. M. Vahidipour, and A. Karimi, “Presenting a hybrid control method for centralized-decentralized of virtual power plants and its analysis using complex network parameters”, *The first conference on Artificial Intelligence and Smart Computing*, Semnan, Iran, 2022.
46. A. M. Saghiri, S. M. Vahidipour, M. R. Jabarpour, M. Sokhak, and A. Forestiero, “A Survey of Artificial Intelligence Challenges: Analyzing the Definitions, Relationships, and Evolutions”, *applied science*, Vol. 12, No. 8, p. 4054, 2022.
45. M. Malekmohamadi, M. Nickparvar, M. J. Nasri, S. M. Vahidipour, and J. Salimi, “Link Prediction in DBLP Network with Supervised Machine Learning”, *The National Conference of the Recent Advantages on the Data Engineering and Soft Computing (CSE2021)*, Iran, 2021.

44. A. H. Yadollahi, R. Karami, E. Hajiamiri, S. M. Vahidipour, "Link Prediction with the number of Triangles based on Subgraph", *the 5th National Conference on Technologies in Electrical and Computer Engineering (TEC2021)*, Iran, 2021.
43. S. Gholami, A. M. Saghiri, S. M. Vahidipour, and M. R. Meybodi, "HLA: A Novel Hybrid Model Based on Fixed Structure and Variable Structure Learning Automata", *Journal of Experimental & Theoretical Artificial Intelligence*, Fra2021, pp:1-26.
42. A. Sharifi, H. Moghanlou, F. Zandi, and S. M. Vahidipour, "A framework for link prediction using embedding and convolutional neural networks", *Computing Science Journal (CSJ), Informatics Society of Iran*, 2021.
41. F. Aghasi, F. Naderi, and S. M. Vahidipour, "Predict Unsupervised Linking in Social Networks Based on Combining Contextual, Topological and Temporal Knowledge", *the Second National Informatics Conference of Iran, IPM*, Tehran, pp. 50-56, 2020.
40. A. Sharifi, H. Moghanlou, F. Zandi, and S. M. Vahidipour, "Comparison of Node2vec methods for link prediction based on deep convolution neural network", *the Second National Informatics Conference of Iran, IPM*, Tehran, pp. 19-26, 2020.
39. M. Rafieepour, Z. Abdolzalizadeh, and S. M. Vahidipour, "Detection of dense networks from quasi-tree networks based on homogeneity and heterogeneity criteria for link prediction", *the Second National Informatics Conference of Iran, IPM*, Tehran, pp. 57-62, 2020.
38. H. A. Beni , Z. Aghaee , A. Bouyer, and S. M. Vahidipour, "Selection of Top-k Nodes based on the Topology Structure in Social Networks", *the 6th International Conference on Web Research (ICWR)*, Tehran, Iran, 2020 () .
37. Z. Aghaee, H. A. Beni, S. Kianian, and S. M. Vahidipour, "A Heuristic Algorithm Focusing on the Rich-Club Phenomenon for the Influence Maximization Problem in Social Networks", *the 6th International Conference on Web Research (ICWR)*, Tehran, Iran, 2020 ()
36. A. Jabalameli, **S. M. Vahidipour**, and M. M. Mohammadi, "Employing a novel content-based similarity measure for a machine learning-driven focused crawler", *the 6th National Conference on Applied Research in Computer Engineering and Information Technology, K. N. Toosi University of technology*, Tehran, Iran, Feb. 2020.
35. A. Dehghani Mofrad Arani, S. K. Tabatabaei, **S. M. Vahidipour**, and J. Salimi Sartakhti, "Improved Approach for Community Detection Based on Game Theory in Online Social Networks", *the third national conference on Computer, Information technology, and Applications of AI*, Ahvaz, Iran, Feb. 2020.
34. O. R. B. Speily, A. Rezvanian, A. Ghasemzadeh, A. M. Saghiri, **S. M. Vahidipour**, "Lurkers Versus Posters: Investigation of the Participation Behaviors in Online Learning Communities", *Educational Networking, Lecture Notes in Social Networks*, book chapter, pp. 269-298, 2020.
33. S. Fattahi, R. Yazdani and S. M. Vahidipour, "Discovery of Society Structure in A Social Network Using Distributed Cache Memory", *the 5th International Conference on Web Research (ICWR)*, Tehran, Iran, 2019, pp. 264-269, doi: 10.1109/ICWR.2019.8765289.

32. F. Ghovanloo-Ghajar, A. Shariati-Mehr, N. Khayami-Shad, and S. M. Vahidipour, "Detecting Overlapping Communities by label propagation using Map-Reduce Model", *The 26th Annual International CSI Computer Conference, CSICC'19*, Tehran, 2019.
31. N. Zahiri, S. M. Vahidipour, and J. Salimi-Sartakhti, "An Algorithm for detecting hierarchical overlapping communities based on cooperative game", *The 26th Annual International CSI Computer Conference, CSICC'19*, Tehran, 2019.
30. A. Ahmadi, K. A. Arani, and S. M. Vahidipour, "Improving the performace of the community detection algorithms using removing the high degree vertices", *the Third Conference on Computer Engineering Information Technology and Data Processing*, Tehran, November 2018.
29. S. M. Vahidipour, M. Esnaashari, A. Rezvanian, and M. R. Meybodi, "GAPN-LA: A Framework for Solving Graph Problems Using Petri Nets and Learing Automata", *Engineering Applications of Artificial Intelligence*, DOI:10.1016/j.engappai.2018.10.013, no. 77, pp. 255-267, 2018.
28. A Rezvanian, S. M. Vahidipour, and M. Esnaashari, "New Applications of Learning Automata-based Techniques in Real-World Environments", *Journal of Computational Science*, DOI: 10.1016/j.jocs.2017.11.012, vol. 24, pp. 287-289, 2017.
27. A. Jabalameli, S. M. Vahidipour, and A. Bagheri, A Focused Crawling method Based on Detecting Communities in WEB, *the 4th International Conference on Knowledge-Based Engineering and Innovations (KBEI 2017)*, Iran University of Science and Technology, Tehran, Iran, 2017.
26. I. Ranjbar, Z. Seyed-sallehi, and S. M. Vahidipour, A Fast k-Clique Community Detection in Large Network, *the 4th International Conference on Knowledge-Based Engineering and Innovations (KBEI 2017)*, Iran University of Science and Technology, Tehran, Iran, 2017.
25. S. M. Vahidipour and M. Esnaashari. Priority Assignment in Queuing Systems with Unknown Characteristics Using Learning Automata and Adaptive Stochastic Petri Nets, *Journal of Computational Science*, 2017, DOI: 10.1016/j.jocs.2017.08.009.
24. S. M. Vahidipour, M. R. Meybodi, and M. Esnaashari. Cellular Adaptive Petri Net Based on Learning Automata and Its Application to Vertex Coloring Problem, *Discrete Event Dynamic Systems*, vol. 27, no. 4, pp.609-640, 2017, DOI: 10.1007/s10626-017-0251-z.
23. S. M. Vahidipour, M. R. Meybodi, and M. Esnaashari. Finding the Shortest Path in Stochastic Graphs Using Learning Automata and Adaptive Stochastic Petri nets, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (IJUFKS)*, vol. 25, no. 3, pp. 427-455, DOI: 10.1142/S0218488517500180, May 2017.
22. S. M. Vahidipour, M. R. Meybodi, and M. Esnaashari. Adaptive Petri net based on irregular cellular learning automata with an application to vertex coloring problem, *Applied Intelligence*, DOI: 10.1007/s10489-016-0831-x, Jul. 2016.
21. S. M. Vahidipour, M. R. Meybodi, and M. Esnaashari. Learning Automata Based Adaptive Petri net and Its Application to Priority Assignment in Queuing Systems with Unknown

Parameters, IEEE Transactions on Systems, Man, and Cybernetics, vol.45, no. 10, pp. 1373-1384, DOI: 10.1109/TSMC.264, Oct. 2015.

20. S. M. Vahidipour, A. Mirzaei and M. Rahmati. Comparing Weighted Combination of Hierarchical Clustering Based on Cophenetic Measure, The IDA journal, vol. 18, no. 4, 2014.

19. S. M. Vahidipour and M. R. Meybodi. Learning in Random Neural Network with an adaptive algorithm based on Learning Automata, the 5th Conference on Information and Knowledge Technology (IKT), Shiraz University, Iran, 2013.

18. S. M. Vahidipour and M. R. Meybodi, Adaptation in Priority Petri Net using Learning Automata, the Proceedings of 11th Iranian Conference on Intelligent Systems, Kharazmi University, Tehran, Iran, Feb. 27-28, 2013.

17. S. M. Vahidipour, H. Shirazi and M. Enami, Study of Performance Assessment in Evolutionary Multi-objective Optimization Methods and BBV Problem, the Regional conference on Computer Science, Engineering and Technology, Doroud Azad University, 2012.

16. S. M. Vahidipour and G. R. Vakili-nezhaad, Application of Parametric L-Systems to Generate the Figures of Two Series of Spherical Fullerenes, International Journal of Nanoscience and Nanotechnology, vol. 6, no. 2, pp. 71-77, Jun. 2010.

15. M. Bahadori, H. Bakhshandeh and S. M. Vahidipour, Prediction the Sarcheshmeh Copper mine explosion based on Genetic Algorithm, the first conference on explosion, Amirkabir University, Tehran, Iran, 2010.

14. M. Romozi, S. M. Vahidipour, H. Babaei, Improvement of connectivity in mobile ad hoc networks by adding static nodes based on a realistic mobility, the second International Conference on Machine Vision (ICMV 2009), Dubai, UAE, Dec. 2009.

13. S. M. Vahidipour, Study of Different Open-Addressing Hash function Performance for Data Storage and Retrieval of Persian Words Database, the 17th Iranian Conference on Electrical Engineering (ICEE2009), Tehran, Iran, 2009.

12. A. Farzanegan and S. M. Vahidipour , Optimization of communication circuit simulations based on genetic algorithms search methods, Minerals Engineering, Vol. 22, No. 7-8, pp. 719-726, Jun. 2009.

11. A. Navab-Kashani and S. M. Vahidipour , Multi-Objective Optimal Communication Spanning Tree (OCST) problem Using Genetic Algorithm, the 13th Computer Society of Iran Computer Conference CSICC2008, Iran, 2008.

10. A. Hajehforoosh and S. M. Vahidipour, The L-Systems Compiler design, Using Genetic Algorithm, the 13th Computer Society of Iran Computer Conference (CSICC2008), Iran, 2008.

9. S. M. Vahidipour and G. R. Vakili-Nezhaad, Application of Parametric L-Systems to Generate the Figures of Two Series of Spherical Fullerenes, the First Conference and workshop in Mathematic and Chemistry(FCWMC2008), Tehran, Iran, 2008.

8. G. R. Vakili-Nezhaad, S. M. Vahidipour and M. Dargahi, Three Phase Flash Calculations Using Genetic Algorithm Approach, the First Conference and workshop in Mathematics and Chemistry(FCWMC2008), Tehran, Iran, 2008.

7. A. Farzanegan and S. M. Vahidipour, Integration of Evolutionary Optimization Algorithms with a Grinding Circuit Simulator, Comminution '08, Falmouth, Cornwall, UK, Jun. 2008.
6. A. R. Ghasemi, S. M. Vahidipour and M.H Hajmohammad, Optimization of Stacking Sequence of Composite Laminates for Reduction of Residual Stresses by the Genetic Algorithm, the First International Conference on Composites: Characterization, Fabrication, and Application (CCFA1), Iran, Dec. 2008.
5. S. M. Vahidipour, H. Sabaghian B. and G. Vakili-nejhad, Generate of the Figures of Some Fullerenes by Using L-Systems, Croat. Chem. Acta (CCACAA), vol. 81, no. 2, pp. 341-345, 2008.
4. H. Sabaghian B., Gh. Vakili-nejhad and S. M. Vahidipour, Prediction of The Number of the Carbon Atoms in Different Nanostructures by Using Geometrical Approach, Croat. Chem. Acta (CCACAA), vol. 81, no. 2, pp.351-361, 2008.
3. S. M. Vahidipour and B. Minaei-Bidgoli, Using Genetic Algorithms for multiobjective automated Graph Drawing, *SICC'07: Proceedings of 12th International CSI computer conference*, Tehran, Iran. Feb 20-22, 2007.
2. S. M. Vahidipour, H. Shirazi and B. Minaei, Study of Hash Function performance for data storage and retrieval of Quran commentaries database, *SICC'07: Proceedings of 12th International CSI computer conference*, Tehran, Iran. Feb 20-22, 2007.
1. S. M. Vahidipour and B. Minaei, Using Genetic Algorithms for multi-objective automated Graph Drawing, International conference on Artificial Intelligence (ICAI'06), Las Vegas, vol. 1, pp. 217-223, Jun. 2006.

Books

- A. Rezvanian, A. M. Saghiri, **S. M. Vahidipour**, M. Esnaashari, M. R. Meybodi, *Recent Advances in Learning Automata (Studies in Computational Intelligence)*, Springer, ISBN: ISBN-13: 978-3319724270, 2018.
- M. Esmaeeli and S. M. Vahidipour, *Data Mining with Python*, Atinegar, ISBN: 978-622-7571-17-2, 2021.
- M. Esmaeeli and S. M. Vahidipour, *Machine Learning Engineering*, Atinegar, ISBN: 978-622-7571-26-4, 2021.

Editorship

- Technical Scientific Chair, the 4th national and 2nd international conference on Computer Games: Challenges and Opportunities, University of Kashan.
- Lead Guest Editor, Journal of Optimization, Special Issue on Soft Computing for Optimization in Complex Systems.
- Lead Guest Editor, Journal of Computational Science (Elsevier), Special Issue on New Applications of Learning Automata-based Techniques in Real-World Environments.

INVITED REVIEWER FOR JOURNALS

- [IEEE transaction on Systems](#)
- [Energy Engineering Management](#)
- [International Journal of Management Science and Engineering Management](#)

- [Journal of Optimization, Soft Computing for Optimization in Complex Systems](#)
- [Journal of Computational Science](#)
- [Soft Computing Journal](#)
- [Iranian Journal of Science and Technology, Transactions of Electrical Engineering.](#)
- [Journal of Information Systems and Telecommunication](#)
- [IEEE Systems Journal](#)
- [Physic A: Statistical Mechanics and its Applications](#)
- [International Journal of Engineering](#)
- [Journal of Information and Communication Technology](#)
- [Wireless Personal Communications](#)
- [Iranian Journal of fuzzy systems](#)
- [National Journal of Engineering Research](#)
- [Computational Intelligence in Electrical Engineering](#)
- [Intelligent Systems in Electrical Engineering](#)
- [Journal of Signal and Data Processing](#)
- [Iranian Journal of Science and Technology Transaction of Electrical Engineering](#)
- [Energy Engineering Management](#)
- [Tabriz Journal of Electrical Eng. \(TJEE\)](#)
- [The 4th International Conference on Computer and Knowledge Eng. \(ICCKE 2014\)](#)
- [The 4th International Conference on Computer and Knowledge Eng.](#)
- [The National Scientific Student's Organization of Electrical Eng. \(NSSOEE\)](#)
- [The 16th Iranian Student Conference on Electrical Engineering](#)
- [The 6th Iranian Joint Congress on Fuzzy and Intelligent Systems](#)
- [The 17th Conference on Fuzzy Systems and 15th Conference on Intelligent Systems](#)

GRADUATE AND UNDERGRADUATE COURSES

- Graph Representation Learning, Big Data, Complex Networks, Data mining, Evolutionary Computation, Computer Programming, Data Structures, Information Storage and Retrieval, Computer Graphics, Algorithms, Discrete Mathematics, Artificial Intelligent, The Basic Principles of Computer and Programming, Theory of Automata, Formal Languages and Computation, Software Engineering.

COMPUTER SKILLS

- *Programming languages:* C, C++, C#, MATLAB, Visual Basic, Python.

Certificate of Attendance

- The 104-Hour Enterprise Architecture Course, “EA”, SOEA Lab, Computer science and Engineering Faculty, Shahid Beheshti University, Tehran, 2017.
- The 32-Hour Summer School, “Networks and Systems”, Tehran Institute for Advanced Studies at Khatam University, Teharn, August 13-16, 2018.
- The 32-Hour Summer School, “Data Science and Machine Learning”, Tehran Institute for Advanced Studies at Khatam University, Teharn, August 24-27, 2019.

LANGUAGE SKILLS

- English (Fluent), Persian (Native).