



Mehdi Zaferanieh

Resume

Current Position

2009 Until Now **Faculty Member**, *Hakim Sabzevari University, Faculty of Mathematics and Computer Science.*

2013 to 2016 **Chief of Education**, *Hakim Sabzevari University.*

Education

1998-2002 **B.Sc.**, *Shahid Bahonar University of Kerman, Kerman, Iran.*
Mathematics (with Operations Research specialization)

2002-2004 **M.Sc.**, *Ferdowsi University of Mashhad, Mashhad, Iran.*
Operations Research

2004-2008 **Ph.D.**, *Ferdowsi University of Mashhad, Mashhad, Iran.*
Operations Research

Areas of Expertise

- Facility Location and its application
- Network optimization
- Transportation Operations
- Information Theory
- Machine learning
- Game Theory
- Multicriteria Optimization
- Traffic Counts
- Linear and Nonlinear Programming
- Data Mining

Courses Taught

- Operations Research I,II
- Network flows and integer programming
- Multicriteria optimization
- Advanced linear programming
- Combinatorial optimization
- Convex optimization
- Data mining
- Optimization in computer science
- Nonlinear optimization
- Engineering mathematics
- Advanced operations research I,II
- Programming Languages
- Location theory
- Game theory

Skills & Experiences

C and C++, Python, GAMS, CPLEX, MATLAB, \LaTeX , Microsoft Office (Word, Excel, Access, Outlook, PowerPoint), WinEdt, TeXMaker, XePersian, Python.

Professional Activities

- Member of the Iranian Society of Mathematics. <https://en.ims.ir/>
- Member of the Iranian Operations Research Society <https://iors.ir/>
- Executive secretary of third national seminar on control and optimization, 2020. <https://en.ims.ir/>
- A based traffic bi-level p-median problem, Supported by *Iran national science foundation* under Fund number 99012804, 2020.

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- Some lectures and workshops

Journal Publications

- M. Zaferanieh, H. Taghizadeh Kakhki, J. Brimberg and G.O. Wesolowsky. A BSSS algorithm for the single facility location problem in two regions with different norms, *European Journal of Operational Research*, 2008
- J. Fathali, M. Zaferanieh and Ahmad Nezakati. A BSSS Algorithm for the Location Problem with Minimum Square Error, *Advances in Operations Research*, <http://dx.doi.org/10.1155/2009/212040>, 2009.
- J. Fathali, M. Zaferanieh. Location problems in regions with lp and block norms, *Iranian Journal of Operations Research*. 2011
- M. Zaferanieh, J. Fathali. Finding a core of a tree with pos/neg weight. *Mathematical Methods of Operations Research*, 2012
- M. Abareshi, M. Zaferanieh and B. Keramati. Path Flow Estimator in an Entropy Model Using a Nonlinear L-Shaped Algorithm. *Networks and Spatial Economics*, 2017, 293-315.
- S. Motevalli, J. Fathali and M. Zaferanieh. An efficient algorithm for finding the semi-obnoxious $(k; l)$ -core of a tree, *Journal of Mathematical Modeling*, 2016.
- M. Abareshi, M. Zaferanieh, M. R. Safi . Origin-Destination Matrix Estimation Problem in a Markov Chain Approach. *Networks and Spatial Economics*. 2019:1-28.
- M. Abareshi and M. Zaferanieh, A mixed planar approach for estimating the origin-destination matrix in large scale networks, *Journal of Operational Research in Its Applications*, 2018.
- M. Abareshi, M. Zaferanieh, The single facility location problem with discrete demand weights and travel times, *Iranian Journal of Numerical Analysis and Optimization*, 2019.
- M. Zaferanieh, M. Abareshi, A, A bi-level capacitated P -median facility location problem with the most likely allocation solution, *Transportation Research Part B: Methodological*, 2019, 123, 1-20.
- S. Safari, M. Zaferanieh, M. Abareshi , E. L. Rahimi, The Lagrangian relaxation method for the shortest path problem considering transportation plans and budgetary constraint, *Journal of Operational Research in its Applications*, 2019
- M. Zaferanieh. "The most probable allocation solution for the p -median problem." *Iranian Journal of Numerical Analysis and Optimization* 10, no. 2 (2020): 155-176.
- M. Abareshi, M. Zaferanieh, J. Fathali. Zaferanieh, Mehdi, Maryam Abareshi, and Jafar Fathali. "The minimum information approach to the uncapacitated p -median facility location problem." *Transportation Letters* (2021): 1-10..
- J. Fathali, M. Zaferanieh, M. Abareshi. The 2-median and 2-maxian problems with balancing on allocation to servers in a tree, *Journal of combinatorial optimization*, (2023), 45.
- M. Zaferanieh, M. Abareshi, M. Jafarzadeh, A *bi*-level p facility network design problem in the presence of congestion, *Computer and industrial engineering*, (2023): 176, 109010.
- M. Sadra, M. Zaferanieh, An online supervised machine learning algorithm to solve a bi-level network design problem, *Journal of Operational Research in Its Applications*, 2023, accepted.

Journal Publications: Under Review or in Revision

- M. Zaferanieh, M. Abareshi. A *tri*-level demand estimation model to the p -median problem considering the minimum information approach, *Opsearch*, under Review.
- A traffic based model to the capacitated p -median problem in congested networks, *Theoretical computer science*, under review.
- Stochastic l -core problem on a tree with $M/G/1$ queue: An application to mobile hospital routing, *Health-care and mangement science jounal*, under review.
- A p -facility capacitated location problem with customer-equilibrium decisions, *Journal of the operational research scociety*, under review.
- Pareto optimality in cloud system provider selection, *Journal of Network and Computer Applications*, under review.
- Leader-follower green traffic assignment problem with online supervised machine learning solution approach, *Computer and Operations Research*, under review.

Conference Publications

- M. Zaferanieh, H.T. Kakhki, J. Brimberg and G.O. Wesolowsky. The single facility location problem in two regions with different norms, *VOCAL 2006* , Veszprem, Hungary, Dec 13-15, 2006.

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- M. Zaferanieh and S. Habibnia. A fuzzy core problem on a tree with pos neg weights, 40th Annual Mathematics Conference, Sharif University of Technology, Tehran 2009.
- M. Mosayebi and M. Zaferanieh. Voronoi diagrams in a region with varying norms, IPM 2011.
- M. Zaferanieh and M. Abareshi, The network median problem with discrete demand weights and travel times, 5th conference on ISOR, Tabriz, Iran 2012.
- M. Abareshi, M. Zaferanieh and B. Keramati. Least square approach for estimating the approach for estimating the stochastic OD matrix of a network, 44th Annual Mathematics Conference, Ferdowsi university of Mashhad, Iran 2013.
- M. Abareshi and M. Zaferanieh. A deterministic O-D matrix for a stochastic network using an LS approach, 44th Annual Mathematics Conference, Ferdowsi university of Mashhad, Iran 2013.
- M. Rezazadeh, M. Zaferanieh and M. AminToosi, The p-hub facility location in M/G/1 queuing systems, 45th Annual Mathematics Conference, Seman university, Iran 2014.
- S. Shahi, M. AminToosi and M. Zaferanieh. Comparing three methods in uncapacitated facility location problem, 7th conference on ISOR, Semnan university, Iran 2014.
- R. Hamedi, M. AminToosi and M. Zaferanieh, Using block norms in sparse super resolution, 3th International Conference on Pattern Recognition and Image Analysis, Shahrekord university, 2017.
- M. AminToosi, S. Khorsandi and M. Zaferanieh, Evaluating extreme learning machine in image segmentation, 3th International Conference on Pattern Recognition and Image Analysis, Shahrekord university, 2017.
- M. Abareshi, M. Zaferanieh, A bi-objective model to estimate the demands of nodes in the P-median problem, 13,14-Nov-2014, Third national seminar on control and optimization. Hakim Sabzevari University.
- A. Shahbakh, M. Zaferanieh, Using topsis method for cloud provider system selection, 9-11 May-2022, The 9th international seminar on numerical analysis, Guilan University.
- M. Sadra, M. Zaferanieh, Using an online supervised machine learning algorithm to solve a bi-level network design, the 11th national seminar on Linear Algebra and its Applications, 3-4, Feb-2022, Hakim Sabzevari University.
- A. Shahbakhsh, A. Javan, M. Zaferanieh, S.S. Moghadam, Multi-attribute decision-making methods to a cloud service providing selection, 31st International conference on electrical engineering, Amir-Kabir University, May-2023.

Program Committees & Technical Reviewer

- Executive manager of 22th Iranian Algebra seminar 2012, Hakim Sabzevari University.
- Executive manager of Third national seminar of Control and Optimization 2017, Hakim Sabzevari University.
- Executive manager of 11th national seminar on Linear Algebra and its Applications 2021, Hakim Sabzevari University.
- Iranian Operations Research Society Conference 2015, Ferdowsi University of Mashhad.
- Iranian Operations Research Society Conference 2015, Semnan University.
- Iranian Operations Research Society Conference 2012, Shahid Madani University.
- Annual Iranian Mathematics Conference 2016, Kharazmi university of Tehran.
- Annual Iranian Mathematics Conference 2014, Semnan university.
- Annual Iranian Mathematics Conference 2013, Ferdowsi University of Mashhad.
- Reviewer of Journal of Operational Research in Its Applications.
- Reviewer of International journal of production research.
- Reviewer of Neural computing and applications.
- Reviewer of European journal of operational research.
- Reviewer of Transportation research part B.

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