



محمد رضا صافی

دانشگاه سمنان، گروه ریاضی کاربردی

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معرفی

Assistant professor of mathematics with 24 years of experience in undergraduate and postgraduate higher education with a focus on Applied Mathematics, Operations Research, and Data Analysis in addition to a second MSc in Electrical Engineering. Experienced in further subspecialties of mathematics such as Optimization and Data Analysis. Have held executive positions as Dean of Faculty of science, vice-chancellor of faculty, and head of the department. Passionate about research while enjoying teaching.

علاقه تحقیقاتی

Multi-Objective Programming, Transportation Programming, Semi-Definite Programming, Stochastic Programming, Data Analysis, Vehicle Tracking, and Collision avoidance.

تحصیلات

2020 – 2021	University of Windsor, Windsor, Canada MSc: Electrical Engineering Dissertation: Data Imputation Using Differential Dependency and Fuzzy Multi-Objective Linear Programming. Supervisors: Dr. Shahpour Alirezaee and Dr. Madjid Ahmadi
2001-2006	Bahonar University, Kerman, Iran PhD: Applied Mathematics (Operations Research) Thesis: Fuzzy Linear Programming: A Geometric Approach. Supervisor: Dr. Hamidreza Maleki
1993-1995	Bahonar University, Kerman, Iran MSc: Applied Mathematics (Operations Research) Dissertation: Investigation into Transportation Problems. Supervisor: Dr. Mahbanoo Tata
1987-1991	BSc: University of Sistan and Balouchestan, Zahedan, Iran Applied Mathematics, (Operations Research) Project: Drawing Closed Loops and proving their Uniqueness in Transportation Problems. Supervisor: Dr. Abbassali Noura.

Academic Employment

2022-2023	University of Windsor, Windsor, Ontario, Canada Research Associate , Mechatronic Lab, Department of Electrical and Computer Engineering
2022-2023	Campus Support, Vancouver, British Columbia, Canada

Content Developer

2020-2021	University of Windsor, Canada GATA , Department of Electrical and Computer Engineering (Graduate and teaching assistant in Mathematics Foundation, Advanced Engineering Mathematics, and Control Theory courses)
2018-2019	University of Windsor, Windsor, Canada Visiting Scholar , Department of Mathematics and Statistics,
2009-Current	Semnan University, Semnan, Iran Assistant Professor , Department of Applied Mathematics
2006-2009	University of Shahid Bahonar Kerman, Kerman, Iran Assistant Professor , Department of Applied Mathematics
1994-2006	University of Shahid Bahonar Kerman, Kerman, Iran Faculty Member , Department of Applied Mathematics

Executive Position

2010-2014	Semnan University, Semnan, Iran Dean : Faculty of Mathematics, Statistics and Computer Science
2012-2014	Semnan University, Semnan, Iran Dean : Science Campus.
2007-2009	Bahonar University, Bam, Iran Head : Department of Tourism and Hospitality Management
1999-2003	Bahonar University, Bam, Iran Dean : Bam Campus
1997-1999	Bahonar University, Bam, Iran Vice-Chancellor : Bam Campus
1995-1997	Bahonar University, Bam, Iran Head : Department of Mathematics

Courses Taught

Graduate:

Advanced Linear Programming, Multi-Objective Programming, Stochastic programming, Topics in Fuzzy Linear Programming, Topics in Linear Fractional Programming, Quantitative Method in Decision Making, Engineering Mathematics.

Undergraduate:

Operational Research I & II (Linear and Non-linear Programming), Discrete Mathematics, Calculus (Engineering, Mathematics, Science), Probability and Statistics, Mathematics Foundations, several times, Differential Equations, Numerical Analysis.

Thesis Supervisor and Advisor

Supervised 45 MSc dissertations and 7 Ph.D. theses in addition to being an advisor to several MSc and Ph.D. thesis.

Professional Experience:

Scientific Societies:

Board member: *Iranian Mathematical Society*, Aug. 2014- Aug.2017.

Board member: *Iranian Operations Research Society*, Ap. 2016- Ap.2019.

Liaison: *Iranian Fuzzy Systems Society* in Semnan University, 2011 to present.

Conferences:

Organizer and Chair of “*The 3rd Conference of Financial Mathematics and its Applications*, 30 & 31 Jan 2013, Semnan, Iran.”

Organizer and Chair of “*The 45th Annual Iranian Mathematics Conference*, 26-29 August 2014, Semnan, Iran.”

Chair of Scientific Committee of “*The 7th International Conference of Iranian Operations Research Society*, 14-15 May 2014, Semnan, Iran.”

Journal Editorial Boards:

Journal of Decisions and Operations Research

Advances in Computational and Applied Sciences

Iranian Operations Research Society Newsletter.

International Journal of Nonlinear Analysis and Applications (IJNAA)

Refereeing Activities

Iranian Journal of Fuzzy Systems (IJFS).

Iranian Journal of Numerical Analysis and Optimization (IJNAO).

International Journal of Fuzzy Computation and Modeling (IJFCM).

Annals of Fuzzy Mathematics and Informatics (AFMI)

International Journal of Nonlinear Analysis and Applications (IJNAA).

Societies Membership

Ontario Society of Professional Engineers, Jan. 2020 to present

IEEE Communication Society, Jan. 2020 to present

Iranian Mathematics Society, 1988 to present

Iranian Operations Research Society, 2007 to present

Iranian Fuzzy Systems Society, 2005 to present

England Operations Research Society, 1986-2001

Languages:

Farsi (Persian), Native speaker

English, intermediate to advance

Computer Programming and Software:

MATLAB, PYTHON, C++, QSB, CVX

Honors and Awards

Researcher of the year, Semnan University, 2013-2014.

Lecturer of the year, Semnan University, 2017-2018.

Publications

Book M.R. Safi, *Calculus I*, Semnan University Press, 2018.

Proceedings Chief Editor of the following proceedings:
The 45th Annual Iranian Mathematics Conference
The 7th International Conference of Iranian Operations Research Society
The 3rd Conference on Financial Mathematics & Applications

Journal Papers:

- 1 MA Sangbor, MR Safi, A Azar, Identifying and Prioritizing Sustainable Supply Chain Original Research Management Enablers in the Petrochemical Industry by Combined Approach of Meta-Synthesis Method and Graph Theory and Matrix Approach (GTMA), *Journal of Industrial Management Studies* 20 (64), (2022), pp 1-34.
 - 2 MR Safi, SS Nabavi, Solving binary semidefinite programming problems and binary linear programming problems via multi-objective programming, *International Journal of Nonlinear Analysis and Applications* 13 (1), (2022), pp. 297-304.
 - 3 M.R. Safi, S.S. Nabavi, R. J. Caron, A Modified Simplex Partition Algorithm to Test Copositivity, *Journal of Global Optimization*, 81, (2021), pp. 645–658.
 - 4 SM Tabatabaei, M Safi, M Shafiei Nikabadi, A mathematical model for scheduling of transportation, routing, and cross-docking in the reverse logistics network of the green supply chain, *International Journal of Nonlinear Analysis and Applications* 12 (2), (2021), pp. 1909-1927
 - 5 MA Sangbor, MR Safi, A Azar, M Rabieh, Development a Quantitative Framework for Multilayer Fuzzy Cognitive Maps by combining, *Industrial Management Journal* 13 (1), (2021), pp. 80-104, in Persian.
 - 6 S. S. Nabavi, M. Souzban, M. R. Safi and Z. Sarmast, “Solving fuzzy stochastic multi-objective programming problems based on a fuzzy inequality”, *Iranian Journal of Fuzzy Systems*, Volume 17, Number 5, (2020), pp. 43-52.
 - 7 S.S. Nabavi, M.R. Safi, “*An Improvement of Yildirim’s Algorithm for Solving Copositive Programming*”, *Journal of Mathematics and Computer Science*, (2019).
 - 8 M.A. Sangbor, M.R. Safi, A. Azar, “Application of Fuzzy Cognitive Maps (FCM) to Analysis and Design the Causal Structure of Sustainable Supply Chain Management Enablers in the Petrochemical Industry”, *Journal of Public Management Researches*, 43, (2019), 5-29, in Persian.
 - 9 S.S. Nabavi, M.R. Safi, “Finding the Number of Members with Certain Relationships in Social Networks and Big Size Organizations using Copositive Programming”, *Journal of Operational Research and Its Applications*, (2019), pp. 78-87, (in Persian)
 - 10 M. Iranmanesh, M. R. Alirezaei, M. R. Safi, “*New Malmquist Productivity Index in DEA, in the Presence of Social Factor*”, *Journal of Mathematics and Computer Science*, (2019).
 - 11 M. Iranmanesh. M.R. Safi, M.R. Alirezaei, “*The Effect of Social Factor in Growing Efficiency of Decision Making Unit, based on Data Envelopment Analysis*”, *International Journal of Nonlinear Analysis and Applications*, (2019).
 - 12 M. Abareshi, M. Zaferanieh, M.R. Safi, “*Origin-Destination Matrix Estimation Problem in Markov Chain Approach*”, *Networks and Spatial Economics*, 19 (4), (2019), 1069-1096.
 - 13 A. Nazemi, Z. Arjmandzadeh, M. Safi, “Solving multi-objective random interval programming problems by a capable neural network framework”, *Applied Intelligence*, 49 (4), (2019), pp. 1566-1579.
 - 14 Z. Sarmast, M. R. Safi, E. Farzaneh, "Post-Optimal Analysis in Fuzzy Multi-Objective Linear Programming", *International Journal of Mathematics and its Application*, 6(1-E), (2018), pp. 925-937.
 - 15 Z. Arjmandzadeh, M.R. Safi, A. Nazemi, " A New Neural Network Model for Solving Random Interval Linear Programming Problems", *Neural Networks*, 89 (2017), pp. 11-18.
 - 16 Z. Arjmandzadeh, M.R. Safi, "A Goal Programming Approach for Solving Random Interval Linear Programming Problem", *Turkish Journal of Mathematics*, (2017) 41: pp. 775 – 786
 - 17 Z. Arjmandzadeh, M.R. Safi "A Generalization of Variance Model for Solving Random Interval Linear Programming Problems", *International Journal of Systems Science: Operations Logistics*, Volume 5, Issue 1, (2018), pp. 16-24.
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- 18 M.R. Safi, M. Mansoori, M.A. Paripour, "A Note on "A New Method for Solving Interval and Fuzzy Equations: Linear Case.", Information Science, Volume 279, (2014), pp. 906–907.
 - 19 M.R. Safi, A. Razmjoo, "Solving Fixed Charge Transportation Problem with Interval Parameters", Applied Mathematical Modeling, Volume 37, Issues 18-19, (2013), pp. 8341-8347.
 - 20 M.R. Safi, S.M. Ghasemi, "Uncertainty in Linear Fractional Transportation Problem", International Journal of Nonlinear Analysis and Applications, 8 (2017), No. 1, pp. 81-93.
 - 21 M.R. Safi, S.M. Ghasemi, "Linear Fractional Programming Problem in Uncertain Environments", Journal of Mathematical Analysis, Volume 8 Issue 2 (2017), pp. 23-33.
 - 22 M. Eshaghi Gordji, A. Divandari, M. R. Safi and Y. J. Cho, "On Reformations of 2–Hilbert Spaces", The Australian Journal of Mathematical Analysis and Applications. Volume 10, Issue 1, (2013), Article 8, pp. 1-11.
 - 23 M.R. Safi, H. Zare Marzooni, "Diagnosis and Resolution of Infeasibility in the Constraint Method for Solving Multi-Objective Linear Programming Problems", American Journal of Operations Research, (2011), 1, pp. 185-189.
 - 24 M.R. Safi, H.R. Maleki and E. Zaeimazad, "A Note on the Zimmermann Method for Solving Fuzzy Linear Programming", Iranian Journal of Fuzzy Systems, Vol. 4, No. 2, (2007) pp. 31-45.
 - 25 M.R. Safi, H.R. Maleki, E. Zaeimazad, "A Geometric Approach for Solving Fuzzy Linear Programming", Fuzzy Optimization and Decision Making, (2007), 6, pp. 315-336.
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Conference Papers and Talks:

- 1 M. Zangiabadi, M.R. Safi, H.R., Maleki, "A Fuzzy Approach for Solving Multi-Objective Programming Problem", Fifth Iranian Conference on Fuzzy System Sept. 7-9, 2004, Tehran, IRAN.
- 2 M. Zangiabadi, M.R. Safi, H.R., Maleki, "An Algorithm for Solving Multi-Objective Linear Programming Problem", Logic Colloquium 2004, ASL, European Summer Meeting, July 25-31, 2004. Turin, ITALY.
- 3 M.R. Safi, "Post-optimality and Tolerance Analysis in Transportation Problem", The First Iranian Students Conference, September 21-22, 1994. Tabriz, IRAN,
- 4 M.R. Safi, "More-For-Less Paradox in Transportation Problem", The First Iranian Students Conference, September 21-22, 1994. Tabriz, IRAN,
- 5 E. Zaeimazad, M.R. Safi, and H.R. Maleki, "A Geometric Approach for Solving Fuzzy Linear Programming with Several Objectives", Extended Abstracts of the 39th Annual Iranian Conference 24-27 august 2008, Shahid Bahonar University of Kerman, Kerman, IRAN, 748-751.
- 6 M.R. Safi, H.R. Maleki and E. Zaeimazad, "The Zimmermann Method for Solving Fuzzy Linear Programming Problem when There Are Alternative optimal solutions", Workshop of Fuzzy Sets and its Applications, Sistan and Balouchestan Univ. June 13-14, 2007, Zahedan, IRAN.
- 7 M.R. Safi, H.R. Maleki and E. Zaeimazad, "The Difficulties of Zimmermann Method for Solving Fuzzy Linear Programming Problem from The Geometric Viewpoint", Workshop of Fuzzy Sets and its Applications, Sistan and Balouchestan Univ. June 13-14, 2007, Zahedan, IRAN.
- 8 M.R., Safi, A. Razmjoo., "Illustrating the Difficulties of Zimmermann Method for Solving the Fuzzy Linear Programming by the Geometric Approach", IJCCI 2012 - Proceedings of the 4th International Joint Conference on Computational Intelligence & Fuzzy Computation Theory and Application, 435-438, SciTePress, 5 - 7 October, Barcelona, Spain.
- 9 M.R. Safi, M. Souzban, "Solving fuzzy stochastic multi-objective linear programming problems based on an expectation model and a fuzzy inequality relation", The 12th Iranian Conference on Fuzzy Systems, University of Mazandaran, Babolsar, IRAN, October, 23-25, 2012.
- 10 Safi, M. R., Farzaneh, E., "Post Optimal Analysis in Fuzzy Multi-Criteria Linear Programming with Changing in Objective Function's Coefficients", The 12th Iranian Conference on Fuzzy Systems, University of Mazandaran, Babolsar, IRAN, October, 23-25, 2012.
- 11 M.R. Safi, A. Baghalnejhad, "An Approach for Solving Stochastic Multi-Objective Linear Fractional Programming problem", The 5-th Mathematics Conference of Payame Noor University 24-25 October 2012, Shiraz, IRAN, 429-433.
- 12 M.R. Safi, A. Baghalnejhad, "A New Approach for Solving Decentralized Bi-level Linear Fractional Programming Problems", The 6th International Conference on Fuzzy Information and Engineering, October, 25-26, 2012, Babolsar, IRAN.
- 13 A. Divandari, M. R. Safi, M. Eshaghi Gordji, "2-Inner Product Space", International Conference on Functional Equations, Geometric Functions and Applications (ICFGA2012) 10-12th May 2012, Payame Noor University, Tabriz, IRAN, pp. 44-47.

- 14 M.R. Safi, A. Baghalnejhad, "Solving Interval Valued Bi-level Linear Fractional Programming Problems", 6th International Conference of Iranian Operations Research Society, May 8-9, 2013, Tehran, Iran.
- 15 M.R. Safi, E. Farzaneh, "Post Optimal Analysis in Fuzzy Multi-Objective Linear Programming Problems", 6th International Conference of Iranian Operations Research Society, May 8-9, 2013, Tehran, Iran.
- 16 M.R. Safi, Z. Arjmandzadeh, "Soft Set Theory and Decision making with L Experts", 6th International Conference of Iranian Operations Research Society, May 8-9, 2013, Tehran, Iran.
- 17 M.R. Safi, A. Razmjoo, "Interval-valued Solid Transportation Programming", The 44th Annual Iranian Mathematics Conference, 27-30 August 2013, Mashhad, Iran.
- 18 M.R. Safi, D. Karbasi, "Stackelberg Solution for Fuzzy Random Two-Level Linear Fractional Programming by Probability Maximization with Possibility", The 44th Annual Iranian Mathematics Conference, 27-30 August 2013, Mashhad, Iran.
- 19 M.R. Safi, E. Farzaneh, "Sensitivity Analysis in Fuzzy Assignment Problem", The 13th Iranian Conference on Fuzzy Systems, 27-30 August 2013, Ghazvin, Iran.
- 20 M.R. Safi, A Bagheri, "Linear Fractional Transportation Problem with Fuzzy Demand and Supply", The 13th Iranian Conference on Fuzzy Systems, 27-30 August 2013, Ghazvin, Iran.
- 21 P. Fooladi, M.R. Safi, Z. Arjmandzadeh, "Formulation of Stochastic Interval Programming using Fractile Model", The 7th International Conference of Iranian Operations Research Society, May 14-15, 2014, Semnan, Iran.
- 22 D. Karbasi, S. M. Ghasemi, M.R. Safi, "Solving Random Fuzzy Linear Fractional Programming with Possibilistic Value at Risk", The 7th International Conference of Iranian Operations Research Society, May 14-15, 2014, Semnan, Iran.
- 23 S. S. Nabavi, M.R. Safi, S.M. Ghasemi, "Infeasible Path Following Algorithm for Linear Fractional Programming", The 45th Annual Iranian Mathematics Conference, 26-29 August 2014, Semnan, Iran.
- 24 P. Fooladi, D. Karbasi, M. R. Safi, "Duality and Complementary slackness theorem in fuzzy linear fractional programming with Possibility and Necessity Relations", 2nd International Conference on Mathematical Sciences (ICMS 2014), 9 -11 July 2014, Istanbul, Turkey.
- 25 M. R. Safi, A. Divandari, "*Using Multi-objective Programming on Injection Oil and Gas Field Recovery System*", First International Conference of Operations Research for Optimal Decision Making in Oil, Gas, Petrochemical, and Refining and Distribution Industries June 1-2, 2014 Research Center of Operations Research.
- 26 M. R. Safi, Z Arjmandzadeh, "A New Approach for Solving Stochastic Interval Programming Problems," The 8th International Conference of Iranian Operations Research Society, May 21-22, 2014, Mashad, Iran.
- 27 S. S. Nabavi, M. R. Safi, "Multi-Objective Semidefinite Programming," The 8th International Conference of Iranian Operations Research Society, May 21-22, 2014, Mashad, Iran.
- 28 M.R. Safi, S.S. Nabavi, N. Azizaddin, "Testing Copositivity via Genetic Algorithm and Particle Swarm Optimization Algorithm," 9th International Conference of Iranian Operations Research Society, May 27-28, 2016, Shiraz, Iran.
- 29 M.R. Safi, Z. Arjmandzadeh, "An Extension of the Maximum Probability Model for Solving Random Interval Multi-Objective Programming Problems," 9th International Conference of Iranian Operations Research Society, May 27-28, 2016, Shiraz, Iran.
- 30 M.R. Safi, S.S. Nabavi, P. Fooladi, "A Heuristic Method to Solve the Completely Positive Programming Problems Based on Linear Programming," 10th International Conference of Iranian Operations Research Society, May 3-4, 2017, Babolsar, Iran.

References

- Sh. Alirezaee, Assistant Professor, Department of Electrical Engineering, University of Windsor, Windsor, Ontario, Canada. s.alirezaee@uwindsor.ca
- R.J. Caron, Professor, Department of Mathematics and Statistics, University of Windsor, Windsor, Ontario, Canada. rcaron@uwindsor.ca
- M Ahmadi, Professor, Department of Electrical Engineering, University of Windsor, Windsor, Ontario, Canada. m.ahmadi@uwindsor.ca
- M. Hassanzadeh, Assistant Professor, Department of Electrical Engineering, University of Windsor, Windsor, Ontario, Canada. mhassan@uwindsor.ca

- M. Eshaghi Gorji, Professor, Faculty of Mathematics, Statistics and Computer Science, Semnan University, Semnan, Iran. meshaghi@semnan.ac.ir
- Milan Hladík, Professor, Charles University, Faculty of Mathematics and Physics, Department of Applied Mathematics, Prague, Czech Republic. milan_hladik@centrum.cz
- H. Maleki, Professor Faculty of Mathematics, Shiraz University of Technology, Shiraz, Iran, maleki@sutech.ac.ir