

MOSTAFA DAVTALAB-OLYAIE

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RESEARCH INTERESTS

Operations Research, Performance Analytics, Multicriteria Decision Making, Linear, Nonlinear, Integer and Network flow Programming, Mathematical Modelling Techniques, Classification and Machine Learning.

CURRENT RESEARCH

Data Envelopment Analysis (DEA) and Stochastic DEA applied to economic, management, banking and healthcare. Supply chain management. Resource allocation. Multi-Objective Programming. Big Data Analysis.

ACADEMIC APPOINTMENT

- *Oct 2025 - ...*,
Associate professor,
Department of Mathematics and Statistics, University of Kashan, Kashan, Iran.
Kashan University, Kashan, Iran.
- *Sep 2015-Oct 2025*,
Assistant professor,
Department of Mathematics and Statistics, University of Kashan, Kashan, Iran.
Kashan University, Kashan, Iran.
- *Aprill 2022 - April 2023*,
Visiting Professor,
Department of Mathematics and Statistics, McGill University, Montreal, QC, Canada.
- *March 2018 - April 2018*,
Visiting Professor,
Department of Mathematics and Statistics, McGill University, Montreal, QC, Canada.
- *June 2016 - September 2016*,
Visiting Professor,
Department of Mathematics and Industrial Engineering, Ecole Polytechnique, Montreal, QC, Canada.
- *Sep. 2014 - April 2022*,
Visiting,
Department of Mathematics and Industrial Engineering, Ecole Polytechnique, Montreal, QC, Canada.

EDUCATION

- **Kharazmi University**, Tehran, Iran, *Sep. 2009 - June. 2014*
PhD of Science in Applied Mathematics (Operations Research),
Thesis: *Characterizing full dimensional facets of PPS and statistical inference in stochastic DEA* (Degree: Excellent).
Supervisor: *Gholamreza Jahanshahloo (deceased)*.

- **McGill University**, Montreal, Canada, Feb. 2012 - Dec. 2012
Graduate Research Trainee in Department of Mathematics & Statistics,
 Research Project: *Characterizing full dimensional facets of PPS and statistical inference in stochastic DEA*.
 Supervisor: Masoud Asgharian.
- **Kharazmi University**, Tehran, Sep. 2005 - Jan. 2008
Master of Science in Applied Mathematics,
 Thesis: *Ranking DMUs with Principle Component Analysis and Data Envelopment Analysis* (Degree: Excellent). Supervision: Saeed Mehrabian.
- **University of Isfahan**, Isfahan, Iran, Sep. 2001 – Jun. 2005
Bachelor of Science in Applied Mathematics,
 Thesis: *Introduction on Multi-Objective Programming* (Degree: Excellent).

PUBLICATIONS

PUBLISHED PAPERS

- **Davtalab-Olyaie, M.**, Begen, M. A., & Asgharian M. (2026). Strategies for units incentivization: assessing influence by maximizing loss/gain in centrally managed systems. *European Journal of Operational Research*, 329(1):239–259.
- **Davtalab-Olyaie, M.**, Begen, M. A., Yang, Z., & Asgharian, M. (2024). Incentivization in centrally managed systems: Inconsistencies resolution. *Omega (The International Journal of Management Science)*, 129, 103160.
- Ghandi, F., **Davtalab-Olyaie, M.**, Asgharian, M., Begen, M. A., & Saadatmandi, A. (2025). Pareto-optimal peer evaluation in context-dependent DEA. *Operational Research*, 25(1), 1–40.
- Ghandi, F., **Davtalab-Olyaie, M.** & Asgharian, M. (2024). Peer-evaluation in centrally managed systems. *Annals of Operations Research*, 333, 439–459.
- **Davtalab-Olyaie, M.**, Mahmudi-Baram, H., & Asgharian, M. (2023). Measuring individual efficiency and unit influence in centrally managed systems. *Annals of Operations Research*, 321(1-2), 139-164.
- **Davtalab-Olyaie, M.**, Mahmudi-Baram, H., & Asgharian, M. (2022). Incentivizing units in centralized systems: A slacks-based approach. *Journal of the Operational Research Society*, 73(8), 1724-1741.
- **Davtalab-Olyaie, M.**, Ghandi, F., and Asgharian, M. (2021). On the spectrum of achievable targets in cross-efficiency evaluation and the associated secondary goal models, *Expert Systems with Applications*, 114927.
- **Davtalab-Olyaie, M.**, and Asgharian, M. (2021). On Pareto-optimality in the cross-efficiency evaluation, *European Journal of Operational Research*, 288 (1), 247–257.
- **Davtalab-olyaie, M.**, and Ghandi, F. (2021). Solving multi-objective shortest path problem using data envelopment analysis, *Journal of Operational Research and Its Applications*, 18 (1): 21–38.
- **Davtalab-olyaie, M.**, Ghandi, F., and Davtalab-Olyaie, F. (2020). Fixed costs allocation using cross-efficiency evaluation and game theory. *Journal of New Researches in Mathematics*.
- **Davtalab-Olyaie, M.**, Asgharian, M., and Nia, V. P. (2019). Stochastic ranking and dominance in DEA. *International Journal of Production Economics*, 214:125–138.
- **Davtalab-Olyaie, M.**, and Maleki, S. (2020). A mathematical model for evaluating the efficiency of the University of Kashan's faculties, *Mathematics Interdisciplinary Research*, 5(1), 23-32.

- **Davtalab-Olyaie, M.**, (2019). A secondary goal in DEA cross-efficiency evaluation: A "one home run is much better than two doubles" criterion, *Journal of the Operational Research Society*, 70 (5): 807–816.
- **Davtalab-Olyaie, M.** and Roshdi, I. and Partovi Nia, V. and Asgharian. M. (2015). On characterizing full dimensional weak facets in DEA with variable returns to scale technology, *Optimization*, 64(11), 2455-2476.
- **Davtalab-Olyaie, M.** and Roshdi, I. and Jahanshahloo. G. R. and Asgharian. M (2014). Characterizing and finding full dimensional efficient facets in DEA: a variable returns to scale specification, *Journal of Operational Research Society*, 65:1453-1464.
- Roshdi, I. and Jahanshahloo. G. R. and **Davtalab-Olyaie, M.** (2013) Characterizing and Finding Full Dimensional Efficient Facets of PPS with Constant Returns to Scale Technology, *International Journal of Industrial Mathematics*, 5:149–159.

WORKING PAPERS AND PROJECTS

- A new approach for two-group and multi-group classification problems.
- Stochastic DEA when variables are subject to right censoring.
- Dimension reduction and variable selection in DEA.
- Sensitivity analysis in stochastic DEA.
- Developing some new methods in centralized resource allocation.
- Developing some new cross-efficiency evaluation methods in DEA and network DEA.
- Proposing some new methods for incentivization of decision making units.

TALKS

- **Davtalab-Olyaie, M.** (2022). On Pareto-optimality in the cross-efficiency evaluation: Application to RD project selection. Held November 2022, *GERAD seminars, Canada Excellence Research Chair in Data Science for Real-Time Decision-Making*, Montreal, Canada.
- **Davtalab-Olyaie, M.**, and Najafvand-Derikvandi, M. (2021). Neutral cross-efficiency evaluation in the meta-frontier framework. *51th Annual Iranian Mathematics Conference*, University of Kashan, Kashan, Iran.
- Ghandi, F., and **Davtalab-Olyaie, M.** (2021). Performance evaluation of supply chain networks using cross-efficiency evaluation and game theory. *51th Annual Iranian Mathematics Conference*, University of Kashan, Kashan, Iran.
- **Davtalab-Olyaie, M.**, and Davtalab-Olyaie. F. (2019). A new fair fixed costs allocation method using data envelopment analysis. *50th Annual Iranian Mathematics Conference*, Shiraz, Iran.
- **Davtalab-Olyaie, M.**, and Mahmudi-Baram. H. (2019). A new Bi-level model for centralized resource allocation. *50th Annual Iranian Mathematics Conference*, Shiraz, Iran.
- **Davtalab-Olyaie, M.**, Ghandi. F. and Davtalab-Olyaie. F. (2019). Fixed Costs Allocation using Game Theory. *Proceedings of the 12th International Conference of Iranian Operations Research Society*, Babolsar, Iran.
- **Davtalab-Olyaie, M.**, and Mahmudi-Baram. H. (2019). Ranking decision making units using centralized resource allocation. *Proceedings of the 12th International Conference of Iranian Operations Research Society*, Babolsar, Iran.

- **Davtalab-Olyaie, M.**, and Ghandi. F. (2018). Solving the shortest path problem using weighted sum technique in DEA. *49th Annual Iranian Mathematics Conference*, Tehran, Iran.
- **Davtalab-Olyaie, M.** and Ghandi. F. (2018). A new peer-evaluation method for ranking decision making units. *10th National Conference on Data Envelopment Analysis*, Karaj, Iran.
- **Davtalab-Olyaie, M.** and Ghandi. F. (2017). Extending the shortest path problem using cross- efficiency evaluation method. *48th Annual Iranian Mathematics Conference*, Hamedan, Iran.
- **Davtalab-Olyaie, M.** (2018). On ranking of DMUs in stochastic DEA. *Proceedings of the 11th International Conference of Iranian Operations Research Society*, Kermanshah, Iran.
- **Davtalab-Olyaie, M.** and Ghandi, F (2017). A new method for Pareto-Improvement in cross efficiency-evaluation. *Proceedings of the 10th International Conference of Iranian Operations Research Society*, Babol-sar, Iran.
- **Davtalab-Olyaie, M.** (2016). Stochastic Data Envelopment Analysis. Held November 2016, *GERAD seminars, Canada Excellence Research Chair in Data Science for Real-Time Decision-Making*, Montreal, Canada.
- **Davtalab-Olyaie, M.**, and Karimi, B. (2016). A two stage algorithm for the two groups classification problem: a combined LP-GP based approach. *Proceedings of the 9th International Conference of Iranian Operations Research Society*, Shiraz, Iran, 892–899.
- **Davtalab-Olyaie, M.**, and Karimi, B. (2016). A new approach for evaluating cross-efficiency in DEA with undesirable outputs (in Persian). *Proceedings of the 9th International Conference of Iranian Operations Research Society*, Shiraz, Iran, 563–569.
- **Davtalab-Olyaie, M.** (2012). Statistical inference in stochastic DEA, *40th Annual Meeting of the Statistical Society of Canada*. June 3-6, 2013, University of Guelph, Ontario.

REVIEWING ARTICLES FOR THE FOLLOWING JOURNALS

- European Journal of Operational Research.
- Omega (The International Journal of Management Science).
- International Journal of Production Economics.
- Annals of Operations Research.
- Mathematical Methods of Operations Research.
- European Journal of Industrial Engineering.
- Croatian Operational Research Review.
- Mathematics Interdisciplinary Research.
- Journal of the Operational Research Society.
- OR Spectrum.
- International Journal of Nonlinear Analysis and Applications.
- Control and Optimization in Applied Mathematics.
- Computational Methods for Differential Equations.
- PLoS ONE.
- Energy Economics.

GRANTS

Research Center, Affiliated to the Ministry of Science and Technology of Iran, 2014-2015
Evaluation and direction for improvement for education groups of Iranian Universities: A data envelopment analysis approach .
 \$12,000

HONORS AND AWARDS

Research Award, December 2021
 Selected as the best researcher in Faculty of Mathematical Sciences,
 University of Kashan, Kashan, Iran.

Research Award, December 2019
 Selected as the best researcher in Faculty of Mathematical Sciences,
 University of Kashan, Kashan, Iran.

Teaching Award, May 2019
 Selected as the best teacher in Faculty of Mathematical Sciences,
 University of Kashan, Kashan, Iran.

Top Student September 2012
 Among Ph.D. students graduated in Applied Mathematics,
 Kharazmi University (National University of Iran), Tehran, Iran.

Visiting Scholarship Feb 2012
 Awarded to the top students nationally to visit foreign Universities for research;
 Ministry of Science and Technology, Iran.

1st Ranked July 2008
 Among more than 150 attendees in Ph.D. entrance exam (nationally),
 Kharazmi (National University of Iran), Tehran, Iran.

Top Student June 2005
 Awarded to the top student graduated from Bachelor of Science in Mathematics,
 Esfahan University, Esfahan, Iran.

TEACHING EXPERIENCE

Lecturer, 2013-2026
University of Kashan, Kashan, Iran.

Graduate courses:

- Convex Optimization
- Advanced Operation Research
- Multi-Objective Programming
- Data Envelopment Analysis I & II

Undergraduate courses:

- Operations Research I & II
- Non-Linear Programming
- Multi Criteria Decision Making
- Differential Equations
- Calculus I & II for Engineering
- Statistics and Probability for Engineering

Lecturer,
Kharazmi University, Tehran, Iran.
Undergraduate courses:

2009 - 2011

- Operations Research I & II
- Differential Equations
- Calculus II & III
- Engineering Mathematics

Lecturer,
Qom University, Qom, Iran.
Undergraduate courses:

2007 - 2008

- Statistics and Probability for Engineering
- Calculus II
- Operations Research I

SUPERVISION

- **PhD**
 - Hadis Mahmudi-Baram
 - Farideh Davtalab-Olyaie
 - Fatemeh Ghandi
- **Masters**
 - Ghazaleh Malekian, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2024).
 - Maryam Najafvand Derikvandy, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2022).
 - Solmaz Mohammad por, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2021).
 - Zahra Sanavi Shiri, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2021).
 - Elaheh Barzegari, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2021).
 - Hadis Mahmudi-Baram, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2019).
 - Farideh Davtalab-Olyaie, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2019).
 - Mahshid Motamedi, Master of Science in Applied Mathematics, Department of Applied Mathematics, Faculty of Mathematical Sciences, University of Kashan, Kashan, Iran (2019).
 - Fatemeh Ghandi, Master of Science in Applied Mathematics, Department of Mathematics, Master of Science in Applied Mathematics, Shahid Rajaei Teacher Training University (2017).

TECHNICAL STRENGTHS

Programming Language and Operations Research Software

R, Mathematica, C
GAMS, MATLAB, LINGO

LANGUAGE EFFICIENCY

Persian: Native.

English: Fluent.