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Industrial Engineering Program
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Google Scholar Profile

EDUCATIONAL STATUS

[2014–2018] **Ph.D.** in Industrial Engineering and Operations Management, Koç University, Istanbul, Turkey.

Thesis: *A Trilevel r -Interdiction Multi-Depot Vehicle Routing Problem with Depot Protection and Customer Selection*

Supervisor: Prof. Deniz Aksen

[2012–2014] **MSc** in Industrial Engineering, Urmia University, Urmia, Iran.

Thesis: *Harmony Search Algorithm for Optimization of Multi-Objective Fuzzy Random Portfolio Selection*

Supervisor: Assoc. Prof. Ali Doniavi

[2008–2012] **BSc** in Industrial Engineering, University of Tabriz, Tabriz, Iran.

Thesis: *A Fuzzy Modeling for Fuzzy Portfolio Optimization*

Supervisor: Assoc. Prof. Javad Nematian

PROFESSIONAL EXPERIENCE

- September 2024 – Present: Faculty Member (Assistant professor), Faculty of Engineering and Natural Sciences, Sabanci University
- September 2022 – August 2024: Instructor, Faculty of Engineering and Natural Sciences, Sabanci University
- June 2021 – Present: Researcher at Smart Mobility and Logistics Lab, Faculty of Engineering and Natural Sciences, Sabanci University
- June 2019 – May 2021: Postdoctoral Research Fellow, Faculty of Engineering and Natural Sciences, Sabanci University
- March 2019 – May 2019: Assistant Professor, Industrial Engineering Department, Istanbul Kültür University
- August 2014 – December 2018: Research and Teaching Assistant, Department of Industrial Engineering, Koç University

RESEARCH INTERESTS

- Vehicle Routing, Green Logistics, Electric Vehicle Routing Problem, Facility Interdiction, Heuristic & Metaheuristic, Supply Chain Management, Mathematical Modelling, Combinatorial Optimization.
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PUBLICATIONS IN JOURNALS OF THE SCIENCE CITATION INDEX (SCI)

1. Bülent Çatay and İhsan Sadati, "A note on battery swapping policies in the electric vehicle routing problem with time windows and battery swapping vehicles". **Computers & Operations Research**, 107277 (2026).
2. İhsan Sadati, "An efficient matheuristic integration with benders decomposition for unmanned aerial vehicle routing problem in forest fire surveillance". **Computers & Industrial Engineering**, 111087 (2025).
3. Raheleh Khanduzi and İhsan Sadati, "Developing an imperialist competitive algorithm based on two improvement strategies in a hierarchical capacitated health network". **Neural Computing and Applications** 1-24 (2024).
4. Raheleh Khanduzi, İhsan Sadati and Vahid Akbari, "A bilevel hierarchical covering model to protect a healthcare network against failures". **Operational Research (Oper Res Int J)** 24, 61 (2024).
5. Vahid Akbari, Bülent Çatay and İhsan Sadati, "Route optimization of battery electric vehicles using dynamic charging on electrified roads". **Sustainable Cities and Society**, 105532 (2024).
6. Nima Moradi, İhsan Sadati and Bülent Çatay, "Last Mile Delivery Routing Problem using Autonomous Electric Vehicles". **Computers & Industrial Engineering**, 109552 (2023).
7. Bülent Çatay and İhsan Sadati, "An improved matheuristic for solving the electric vehicle routing problem with time windows and synchronized mobile charging/battery swapping". **Computers & Operations Research**, 106310 (2023).
8. Vahid Akbari, İhsan Sadati, F. Sibel Salman and Davood Shiri, "Optimizing Minimizing total weighted latency in home healthcare routing and scheduling with patient prioritization". **OR Spectrum**, 45, 807–852 (2023).
9. Mir Ehsan Hesam Sadati, Vahid Akbari and Bülent Çatay, "Electric Vehicle Routing Problem with Flexible Deliveries". **International Journal of Production Research**, 60(13), 4268-4294 (2022).
10. Mir Ehsan Hesam Sadati and Bülent Çatay, "A Hybrid Variable Neighborhood Search Approach for the Multi-Depot Green Vehicle Routing Problem". **Transportation Research Part E: Logistics and Transportation Review**, 102293 (2021).
11. Mir Ehsan Hesam Sadati, Bülent Çatay and Deniz Aksen, "An Efficient Variable Neighborhood Search with Tabu Shaking for a Class of Multi-Depot Vehicle Routing Problems". **Computers & Operations Research**, 105269 (2021).
12. Vahid Akbari, Mir Ehsan Hesam Sadati and Ramez Kian, "A Decomposition-Based Heuristic for the Multi-Crew Coordinated Road Restoration Problem for Network Connectivity". **Transportation Research Part D: Transport and Environment**, 102854 (2021).
13. Mir Ehsan Hesam Sadati, Deniz Aksen and Necati Aras, "A Trilevel r -Interdiction Selective Multi-Depot Vehicle Routing Problem With Depot Protection." **Computers & Operations Research**, 104996 (2020).
14. Mir Ehsan Hesam Sadati, Deniz Aksen and Necati Aras, "The r -Interdiction Selective Multi-Depot Vehicle Routing Problem". **International Transactions in Operational Research**, 27(2), 835-866 (2020).

15. Javad Nematian and Mir Ehsan Hesam Sadati, "New methods for solving a vertex p-center problem with uncertain demand-weighted distance: A real case study." *International Journal of Industrial Engineering Computations* 6(2), 253-266 (2015).
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BOOK CHAPTERS

1. İhsan Sadati and Bülent Çatay, "Routing of electric freight vehicles", *Encyclopedia in Operations Management (Reference Module in Social Sciences)*.
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OTHER PUBLICATIONS

1. Mir Ehsan Hesam Sadati, Ali Doniavi, and Abbas Samadi, "Possibility theory for multiobjective fuzzy random portfolio optimization." *Decision Science Letters* (Emerging Sources Citation Index), 3(3), 305-318 (2014).
 2. İhsan Sadati, "Integrating a Connected Micromobility Infrastructure to the Existing Public Transport." *Journal of Intelligent Transportation Systems and Applications (Akıllı Ulaşım Sistemleri ve Uygulamaları Dergisi)*, 6(1), pp.184-193 (2023).
 3. Mir Ehsan Hesam Sadati and Ali Doniavi, "Optimization of Fuzzy Random Portfolio selection by Implementation of Harmony Search Algorithm." *International Journal of Engineering Trends and Technology*, 8(2), 60-64 (2014).
 4. Mir Ehsan Hesam Sadati and Jamshid Bagherzadeh Mohasefi, "The Application of Imperialist Competitive Algorithm for Fuzzy Random Portfolio Selection Problem." *International Journal of Computer Applications*, 79(9), 10-14 (2013).
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CONFERENCE PAPERS

1. Mir Ehsan Hesam Sadati and Javad Nematian, "Two-level linear programming for fuzzy random portfolio optimization through possibility and necessity-based model." *Procedia Economics and Finance* 5, 657-666 (2013).
 2. İhsan Sadati and Bülent Çatay, "Electric vehicle routing problem with an on-demand mobile charging system", *Proceedings of the 14th Annual International Conference on Industrial Engineering and Operations Management (IEOM 2024)*.
 3. İhsan Sadati and Bülent Çatay, "Improving last-mile delivery operations of electric vehicles using on-demand portable chargers". *Transportation Research Procedia* 86, 564-571.
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INVOLVED PROJECTS

1. Researcher: Sheffield University Management School [Research and Knowledge Exchange/Impact Stimulation Fund](#) (Collaborators: Dr. Sina Rastani and Dr. Merve Keskin)
2. Researcher: TÜBİTAK 1001 (Scientific and Technological Research Council of Türkiye) [Proposal Accepted on 29 December, 2023](#) (PI: Duygu Taş Küten-Sabancı University) ([Link](#))
3. Researcher: Iran National Science Foundation (INSF) "Application of a combination of mathematical models and GIS capabilities in locating health facilities, Case study: Health care network of Golestan Province" (Principal Investigator: Prof. Raheleh Khanduzi-Gonbad Kavous University, Iran).

4. Researcher: MeHUB: Integrating a Connected Micromobility Infrastructure to the Existing Public Transport ([Link](#))
 5. Researcher: Smart City Strategy of Konya ([Link](#))
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TEACHING EXPERIENCE

- **Sabanci University, Turkey (Instructor)**
 - DA 507, Modeling and Optimization: Professional Graduate Course (Fall 2023 to Present)
 - ENS 511, Engineering Optimization (Spring 2022, Spring 2024)
 - ENS 208, Introduction to Industrial Engineering (Spring 2023 to Present)
 - IE 430, Logistics Systems Planning and Design (Fall 2022 to Present)
 - IE 305, Simulation (Fall 2022)
 - IE 313, Operations Research III (Summer 2022)
 - IE 454, Supply Chain Analysis (Fall 2021)
 - **Istanbul Kültür University, Turkey (Full-Time Faculty Position)**
 - IE 0411, Logistics Systems, 1 semester
 - IE 4503, Engineering Economics, 1 semester
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AWARDS AND HONORS

- **TÜBİTAK 2224-A - Grant Program for Participation in Scientific Meetings Abroad 2024**
 - **Sheffield University Management School Research and Knowledge Exchange/Impact Stimulation Fund** (Collaborators: Dr. Sina Rastani and Dr. Merve Keskin)
 - **The most downloaded articles from Computers & Operations Research in the last 90 days (October 15, 2020), [A trilevel r-interdiction selective multi-depot vehicle routing problem with depot protection](#)**
 - **Top Downloaded Paper 2018-2019**, International Transactions in Operational Research, [The r-Interdiction Selective Multi-Depot Vehicle Routing Problem](#)
 - **Fall 2017 Outstanding Teaching Award Recipient**, Graduate School of Science and Engineering, Koç University.
 - **Koç University Foundation Scholarship** (2014-present).
 - **Ranked 1st** graduate student, Urmia University.
 - Certificate of “*Attended and Participated in a Pearson In-Service Workshop on Top Notch at Alef Educational Complex*”, 2013.
 - Honor Student in Pre-university Certificate, Tabriz-Iran 2007.
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MEMBERSHIP

- Institute for Operations Research and Management Science ([INFORMS](#))
- INFORMS Transportation Science & Logistics Society ([TSL](#))
- Association of European Operational Research Societies ([EURO](#))
- Euro Working Group on Vehicle Routing and Logistics ([VeRoLog](#))
- Production and Operations Management Society ([POMS](#))

- Operational Research Society-Turkey ([YAD](#))
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REFeree FOR

- Transportation Research Part E: Logistics and Transportation Review
 - Computers & Operations Research
 - International Journal of Production Research
 - European Journal of Operational Research
 - INFORMS Journal on Computing
 - Annals of Operations Research
 - OR Spectrum
 - Omega: The International Journal of Management Science
 - Engineering Applications of Artificial Intelligence
 - Soft Computing
 - Applied Mathematical Modelling
 - Journal of Advanced Transportation
 - EURO Journal on Transportation and Logistics
 - Arabian Journal for Science and Engineering
 - Transactions on Emerging Telecommunications Technologies
 - Economic Modelling
 - Journal of Contemporary Management
 - Global Journal of Technology & Optimization
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EDITORIAL BOARD MEMBERSHIP

- Annals of Applied Sciences ([journal website](#))
 - Scientific Committee member-The 2024 International Conference on Demographic Transition, Health and Technologies ICDTHT'24 ([Conference website](#))
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PRESENTATIONS

- *"Improving last-mile delivery operations of electric vehicles using on-demand portable chargers"*. 26th Euro Working Group on Transportation Meeting (**EWGT 2024**), Lund University, Sweden, September 4-6, 2024.
- *"Electric vehicle routing problem with an on-demand mobile charging system"*. 14th International Conference on Industrial Engineering and Operations Management (**IEOM 2024**), hosted by Khalifa University, Dubai, UAE, February 11-14, 2024.
- *"Electric Vehicle Routing Problem with an On-Demand Mobile Charging System"*. 2023 POMS International Conference (**POMS 2023**), hosted by Rennes School of Business, Paris, France, 18-20 July 2023.
- *"Electric Vehicle Routing Problem with Flexible Deliveries"*. 32nd European Conference on Operational Research (**EURO 2022**), Aalto University, Espoo, Finland, 3-6 July, 2022.
- *"Electric Vehicle Routing Problem with Flexible Deliveries"*. 8th meeting of the EURO Working Group on Vehicle Routing and Logistics Optimization (**VeRoLog 2022**), Kühne Logistics University, Hamburg, Germany, 12-15 June, 2022.

- *“Electric Vehicle Routing Problem with Flexible Deliveries”*. 12th Annual International Conference on Industrial Engineering and Operations Management (**IEOM 2022**), hosted by Kadir Has University, in collaboration with Sabancı University, Istanbul, Turkey, March 7 – 10, 2022.
- *“Multi-Depot Green Vehicle Routing Problem”*. 40th National Operations Research and Industrial Engineering Congress (**YAEM 2021**), Boğaziçi University, Industrial Engineering Department, Istanbul, Turkey, 4-7 July, 2021.
- *“The r-Interdiction Multi-Depot Vehicle Routing Problem”*. 29th European Conference on Operational Research (**EURO 2018**), Valencia, Spain, 8-11 July, 2018.
- *“The r-Interdiction Multi-Depot Vehicle Routing Problem with Customer Selection”*. Operations Research / Industrial Engineering Doctoral Students Colloquium, Sabancı University Industrial Engineering Department, Istanbul, Turkey, 2-3 November, 2017.
- *“The r-Depot Interdiction Vehicle Routing Problem with Capacitated Vehicles and Depots”*. 37th National Operations Research and Industrial Engineering Congress (**YAEM 2017**), Yıldız Technical University Industrial Engineering Department, Istanbul, Turkey, 5-7 July, 2017.
- *“Comparison of Three Classes of MIP Formulations for the Generic CVRP”*. 4th meeting of the EURO Working Group on Vehicle Routing and Logistics Optimization (**VeRoLog 2015**), University of Vienna, Vienna, Austria, 8-10 June, 2015.

ADVANCED COMPUTER SKILLS

Visual Studio C#, Python, CPLEX, GUROBI, GAMS, MATLAB, Mathematica, Excel.

REFERENCES

- Professor Bülent Çatay
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