ERDİ DAŞDEMİR

Ph.D. (METU, Industrial Engineering)

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Fields of Interest

Mathematical optimization, multi-objective optimization, data analytics, evolutionary algorithms, manned and unmanned vehicle routing.

Education

- Ph.D., Industrial Engineering, METU, Turkey, 2021.
- M.S., Industrial Engineering, Hacettepe University, Turkey, 2015.
- B.S., Industrial Engineering, Hacettepe University, Turkey, 2013.

Thesis

- **Ph.D. Thesis:** Unmanned Air Vehicle Routing with Multiple Objectives (2021)
- **Master's Thesis:** Phase I Analysis of Variables Type Correlated Data (2015)
- **Senior Thesis:** Minimizing the Financial Losses of Hacettepe University Hospitals: Improving Hospital Billing Process and Reducing Billing Errors (2013)

Work Experience

- State University of New York at Buffalo, Department of Industrial and Systems Engineering, Buffalo/New York/US, Visiting Professor, Supervisor: Professor Rajan Batta, Dates: October 2022 – ongoing.
- Hacettepe University, Industrial Engineering Department, Ankara/Turkey, Assistant Professor, Dates: April 2022 – ongoing.
- State University of New York at Buffalo, Department of Industrial and Systems Engineering, Buffalo/New York/US, Visiting Researcher, Supervisor: Professor Rajan Batta, Dates: February 2019 – January 2020.
- Hacettepe University, Industrial Engineering Department, Ankara/Turkey, Research Assistant, Dates: September 2013 – October 2021.
- BNB Consulting, Cyber Park, Bilkent, Ankara/Turkey, Business Development and Project Development Specialist, Dates: October 2012 – August 2013.

Funded Research Projects

- TÜBİTAK 2219-International Postdoctoral Research Fellowship Program (October 2022 – October 2023), Award No: 1059B192201022, Principal Investigator: Erdi Dasdemir
- Bi-Objective UAV Route Planning in Continuous Space (1 October.2015 – 31 March 2017) , Air Force Office of Scientific Research, Air Force Material Command, USAF, Award No: FA9550-16-1-0005, Principal Investigator: Prof. Dr. Murat KÖKSALAN, Researchers: Erdi Dasdemir, Dr. Diclehan Tezcaner Ozturk, Hannan Tureci.
- Minimizing the Financial Losses of Hacettepe University Hospitals: Improving Hospital Billing Process and Reducing Billing Errors, TÜBİTAK, 2209-A Sanayi Entegre Proje Destek Programı, Award No: 1919B011202200, Principal Investigator: Erdi Daşdemir, Researchers: Murat Atalay, Volkan Bilgin, Macit Mete Oğuz.

Journal Publications

1. Moskal M.D., Dasdemir E., Batta R. (2022) "Unmanned aerial vehicle information collection missions with uncertain characteristics", *INFORMS Journal on Computing, doi:10.1287/ijoc.2022.1245.*
2. Dasdemir, E., Batta, R., Koksalan, M., Tezcaner Ozturk, D. (2022) "UAV routing for reconnaissance mission: A multi-objective orienteering problem with time-dependent prizes and multiple connections", *Computers & Operations Research,* 145: 105882.
3. Dasdemir, E. Testik, M.C., Tezcaner Ozturk, D., Tuncer Sakar, C., Guleryuz G., Aydin O. M., (2022) "A Multi-objective open vehicle routing problem with overbooking: Exact and heuristic solution approaches for an employee transportation problem," *OMEGA - The International Journal of Management Science*, 108:102587.
4. Dasdemir, E., Koksalan M., Tezcaner Ozturk, D. (2020) "A Flexible Reference Point-Based Multi-objective Evolutionary Algorithm: An Application to the UAV Route Planning Problem", *Computers & Operations Research,* 114: 104811.
5. Aydın, O., Shaygan, A. Dasdemir, E., Soydan G. (2017) "Selecting Health Care Improvement Projects: A Methodology Integrating Cause-and-Effect Diagram and Analytical Hierarchy Process", *Quality Management in Health Care,* 26.1: 40-48.
6. Dasdemir, E., Weiss, C., Testik, M., Knoth, S. (2016) "Evaluation of Phase I Analysis Scenarios on Phase II Performance of Control Charts for Autocorrelated Observations", *Quality Engineering, 28.3:293-304.*
7. Dasdemir, S., Dasdemir, E., (2019) Next Generation Supply Chain and Stock Control with Internet of Things and RFID, *Vergi Raporu (ULAKBIM), 236,* 233-253.

(Journal publications in process)

8. Akduran Y., Dasdemir E., Testik M.C. (in submission). “An Approach to Search Efficient Settings for the Operators and Parameters of Genetic Algorithms”.

Conferences

1. Dasdemir, E., Tezcaner Öztürk D., Koksalan, M. "Multi-objective Routing of UAVs in Continuous Terrain," *YAEM 2021*, Online, 04-07 July 2021.
2. Dasdemir, E., Batta, R., Köksalan M., Tezcaner Öztürk D., "UAV Routing to Maximize Information Gain in a Monitored Environment with Time and Radar Restrictions," *INFORMS Annual Meeting 2019*, Seattle, Washington, USA, 13-16 November, 2019.
3. Dasdemir, E., Tezcaner Ozturk D., Koksalan, M. "A Preference-Based Multi-Objective Evolutionary Algorithm Based Solution Approach to Bi and Three-Objective UAV Route Planning Problems in Continuous Space," *25th International Conference on Multiple Criteria Decision Making*, Istanbul, Turkey, 16-21 June 2019.
4. Dasdemir, E., Batta, R., Tezcaner Öztürk D., Koksalan, M. "Multi-objective Routing of UAVs," *YAEM 2019*, Ankara, Turkey, 12-14 June 2019.
5. Dasdemir, E., Tezcaner Öztürk D., Koksalan, M. "Unmanned Air Vehicle Routing with Soft Time Windows," *YAEM 2018*, Eskisehir, Turkey, 26-29 June 2018.
6. Dasdemir, E., Testik, M.C., Testik, O.M., Tuncer Sakar, C. "A Multi-Objective Evolutionary Algorithm Approach to Employee Bus Transportation Problem," *ICATCES'18*, Safranbolu, Turkey, 11-13 May 2018.
7. Dasdemir, E., Tezcaner Öztürk D., Koksalan, M. "An Evolutionary Algorithm for Multi-Objective UAV Routing," *YAEM 2017*, Istanbul, Turkey, 5-7 July 2017.
8. Dasdemir, E., Tezcaner Ozturk D., Koksalan, M. "A Preference-Based Evolutionary Algorithm and Implementation on UAV Route Planning in Continuous Space," *MCDM 2017*, Ottawa, Canada, 9-14 July 2017.
9. Dasdemir, E., Tezcaner Öztürk D., Köksalan M. "A Preference-Based Evolutionary Algorithm for Bi-Objective UAV Route Planning in Continuous Space," *INFORMS Annual Meeting 2016*, Nashville, Tennessee, USA, 20-23 October 2019.
10. Dasdemir, E., Tezcaner Öztürk D., Köksalan M. "A Preference-Based Multi-objective Evolutionary Algorithm for Bi-Objective UAV Route Planning in Continuous Space," *Poster Presentation, 12th MCDA/M Summer School 2016*, Recife, Pernambuco, Brazil, 18-29 July 2016.
11. Dasdemir, E., Weiss, C., Testik, M., and Knoth, S. "Phase I Analysis of Autocorrelated Time Series Data," *European Network for Business and Industrial Statistics (ENBIS) 14 Conference*, Linz/Austria, 21-25 September 2014.
12. Aydın, O., Shaygan, A. and Dasdemir, E. "A Cause and Effect Diagram and AHP Based Methodology for Selection of Quality Improvement Projects," *European Network for Business and Industrial Statistics (ENBIS) 14 Conference*, Linz/Austria, 21-25 September 2014.

13. Sonmez, V., Dasdemir, E., Testik, M. and Aydin, O. "A Simulation Based Decision Support Tool for Hospital Bed Capacity Planning," *Proceedings of Global Conference on Healthcare Systems Engineering (GCHSE) 2014,* Istanbul/Turkey, 5-8 August, 2014.
14. Dasdemir, E., Oguz, M., Atalay, M., Bilgin, V., Testik, M. and Soydan, G. "Improving Hospital Billing Processes for Reducing Costs of Billing Errors," *European Network for Business and Industrial Statistics (ENBIS) 13 Conference,* Ankara/Turkey. 15-19 September 2013.

Professional Certificates

- University of Michigan, Programming for Everybody (Python).
- University of Michigan, Python Data Structures.
- University of Michigan, Using Python to Access Web Data.
- University of Michigan, Building Web Applications in PHP.
- University of Michigan, Building Database Applications in PHP.
- University of Michigan, Introduction to Structured Query Language (SQL).
- University of Michigan, Introduction to HTML.
- University of Michigan, Introduction to CSS.
- Harvard University (HarvardX), Data Science: Visualization.
- Harvard University (HarvardX), Data Science: Probability.
- Harvard University (HarvardX), Data Science: Inference and Modeling.
- Harvard University (HarvardX), Data Science: Productivity Tools.

Competencies

Computer Skills

- R, Python, PHP, SQL, JavaScript, HTML/CSS, GUROBI, Latex.

Foreign Language

- Advanced level of English

Hobbies

- Camping, trekking, skiing and snowboarding, nature, music.