ÖZGÜN ELÇİ

https://ozgunelci.github.io
ozgunelci@gmail.com

RESEARCH INTERESTS

- Methodology: Decomposition-based hybrid methods; logic-based Benders decomposition; Data-driven optimization; Stochastic, robust, and distributionally robust optimization; Risk-averse optimization.

- Application Interests: Transportation and logistics; Scheduling and routing; Humanitarian logistics; Fairness in resource allocation; Portfolio optimization.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA 2017 - 2022
Ph.D. in Operations Research
Minor in Machine Learning and Statistics
Dissertation: Essays on Logic-Based Benders Decomposition, Portfolio Optimization, and Fair Allocation of Resources
Advisors: Gérard Cornuéjols, John Hooker

Carnegie Mellon University, Pittsburgh PA 2019
M.Sc. in Operations Research

Sabancı University, İstanbul, Turkey 2016
M.Sc. in Industrial Engineering
Thesis: Chance-Constrained Stochastic Programming Models for Humanitarian Relief Network Design
Advisors: Kerem Bülbül, Nilay Noyan

Bahçeşehir University, İstanbul, Turkey 2014
B.Sc. in Industrial Engineering
Graduation Project: A MIP Formulation for Self Financing Energy Investment Planning
Advisors: Semra Ağralı, Ethem Çanakoğlu, Yıldız Arıkan

PROFESSIONAL EXPERIENCE

Amazon — Devices - Demand Planning Seattle, WA
Research Scientist September 2023 - Present

Starbucks — Global Supply Chain Seattle, WA
Data Scientist April 2023 - September 2023

Amazon — Air Science Seattle, WA
Research Scientist October 2022 - January 2023

Amazon — Air Science Seattle, WA
Research Scientist Intern May 2021 - August 2021

PUBLICATIONS

Published/Forthcoming

1. Elçi, Ö., Noyan, N., Bülbül, K., 2018. Chance-Constrained Stochastic Programming under Variable Reliability Levels with an Application to Humanitarian Relief Network Design, Computers and Operations Research, 96, 91-107.

2. Elçi, Ö., Noyan, N., 2018. A Chance-Constrained Two-Stage Stochastic Programming Model for Humanitarian Relief Network Design, Transportation Research Part B: Methodological, 108, 55-83.

3. Elçi, Ö., Hooker, J.N., 2022. Stochastic Planning and Scheduling with Logic-Based Benders Decomposition, INFORMS Journal on Computing, 34(5):2428-2442.

Submitted

- Portfolio Optimization in the Presence of Estimation Errors, joint work with Gérard Cornuéjols and Matthias Köppe, submitted.

Work-in-progress

- Structural Characteristics of Equitable and Efficient Distributions, joint work with John Hooker and Peter Zhang.

- On Logic-Based Benders Decomposition and Sequence-Dependent Scheduling, joint work with John Hooker.

PRESENTATIONS

- Portfolio Optimization in the Presence of Estimation Errors on the Expected Asset Returns

  – Cornell Young Researchers Workshop (Poster Presentation), Ithaca, 2021.

- Structural Characteristics of Equitable and Efficient Distributions, joint work with John Hooker and Peter Zhang.

  – IFORS, 2021, presented by J. Hooker.

  – INFORMS Annual Meeting, Anaheim, 2021.

- Equitable Allocation of Scarce Medical Resources, joint work with John Hooker and

Peter Zhang.

  - INFORMS Annual Meeting, 2020, presented by J. Hooker.

- A Logic-Based Benders Decomposition Algorithm for Two-Stage Stochastic Planning and Scheduling Problem, joint work with John Hooker.

  - International Conference on Stochastic Programming, Trondheim, 2019.

  - INFORMS Annual Meeting, Seattle, 2019.

- Chance-Constrained Stochastic Programming under Variable Reliability Levels with an Application to Humanitarian Relief Network Design, joint work with Nilay Noyan and Kerem Bülbül.

  - INFORMS Annual Meeting, Seattle, 2016.

- A Chance-Constrained Two-Stage Stochastic Programming Model for Humanitarian Relief Network Design, joint work with Nilay Noyan.

  - 37th National Congress on Operations Research and Industrial Engineering (YAEM 2017), İstanbul, 2017.

  - Third Place in YinzOR 2018 Poster Competition, Pittsburgh, 2018.

HONORS AND AWARDS

- PNC Presidential Fellowship, Tepper School of Business, Carnegie Mellon University, 2022.

- William Larimer Mellon Fellowship, Tepper School of Business, Carnegie Mellon University, 2017 - 2022.

- Excellence in Teaching Award (an annually granted award for teaching assistants), Sabancı University, for the academic year 2015 - 2016.

- TÜBİTAK (Scientific and Technological Research Council of Turkey) Graduate Fellowship (Stipend for 2 years), 2014.

- Graduate Scholarship (Full tuition fee waiver + Stipend for 2 years), Sabancı University, 2014.

- B.S. with High Honor Degree, Bahçeşehir University, 2014.

- Academic Achievement Scholarship (Stipend for 3 years), Bahçeşehir University, 2011.

- Undergraduate Scholarship (Full tuition fee waiver), Bahçeşehir University, 2010.

- High School Scholarship (Full tuition fee waiver), American Collegiate Institute, 2005.

TEACHING EXPERIENCE

Carnegie Mellon University

- **Instructor, Optimization for Business** (undergraduate) — Summer 2022
- **TA, Optimization Methods in Finance** (MBA, Instructor: G. Cornuéjols) — Spring 2022
- **TA and recitation leader, Optimization for Business** (undergraduate, Instructor: B. Moseley) — Spring 2019, 2020, 2022
- **TA and recitation leader, Optimization for Business** (undergraduate, Instructor: A. Li) — Fall 2019, 2020, 2021
- **TA, Financial Optimization** (Master of Science in Computational Finance, Instructor: J. Peña) — Fall 2021
- **TA and recitation leader, Probability and Statistics** (MBA, Instructor: J. Peña) — Fall 2019, 2020
- **TA, Risk Analytics** (MBA, Instructor: N. Secomandi) — Fall 2019

Sabanci University

- **TA and recitation leader, Deterministic Models in Operations Research** (undergraduate, Instructor: T. Ünlüyurt) — Fall 2015, Spring 2017
- **TA and recitation leader, Deterministic Models in Operations Research** (undergraduate, Instructor: K. Bülbül) — Spring 2015, 2016, Fall 2016
- **TA, Supply Chain Practice** (undergraduate, Instructor: M. Kaya) — Fall 2015

GRADUATE COURSEWORK

Carnegie Mellon University: Graph Theory, Advanced Graph Theory, Linear Programming, Analytical Performance Modeling & Design of Computer Systems, Integer Programming, Advanced Integer Programming, Modern Convex Optimization, Convex Analysis, Machine Learning, Real Analysis, Lebesgue Integration, Dynamic Programming, Probability and Mathematical Statistics, Stochastic Calculus for Finance.

Sabanci University: Linear Programming & Extensions, Stochastic Processes, Graph Theory & Network Flows, Nonlinear Programming, Stochastic Optimization, Introduction to Mathematical Analysis, Large Scale Optimization, Simulation Methods for Statistical Inference.

SERVICE

- Reviewer
  - INFORMS Journal of Computing
  - Transportation Research Part B.
  - Annals of Operations Research.
  - Transportation Research Part E.
  - Computers & Industrial Engineering.
  - CP 2021 (subreviewer)
  - IISE Transactions
- CMU INFORMS Student Chapter
  - Treasurer, 2018.
  - Co-chair, YinzOR 2018 Conference.
  - Co-chair, YinzOR 2019 Conference.

MISCELLANEOUS

- Programming languages: C++, Python, Visual Studio.
- Software: Excel, MATLAB, Arena.
- Optimization solvers: CPLEX & Concert Technology, ILOG OPL, AMPL, GAMS, Pyomo, Xpress Solver.
- Languages: English, Turkish.
- Professional affiliations: Institute for Operations Research and Management Science (INFORMS), Stochastic Programming Society (SPS).