

Sinan Seymen

Information Technology Program, Viterbi School of Engineering
University of Southern California
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EDUCATION

Northwestern University, Evanston, IL June 2023
PhD, Industrial Engineering and Management Sciences,
Advisor: Edward C. Malthouse

Sabanci University, Istanbul, Turkey June 2018
MSc, Industrial Engineering,
Advisors: Ilker Birbil, Esra Koca

BSc, Industrial Engineering January 2016
BSc, Mathematics Minor

TEACHING EXPERIENCE

University of Southern California, Los Angeles, CA
Lecturer in the Technology and Applied Computing Program (TAC), Viterbi
Previously known as the Information Technology Program (ITP) Fall 2023 - Present

- TAC 249, Introduction to Data Analytics, Units taught: 16, Evals: 4.62/5
- TAC 116, Accelerated Programming in Python, Units taught: 12, Evals: 4.69/5
- TAC 115, Programming in Python, Units taught: 8, Evals: 4.66/5
- TAC 259, Basics of Artificial Intelligence, Units taught: 4, Evals: 4.67/5
- TAC 359, Applied Neural Networks, Units taught: 4, Evals: 4.50/5

Northwestern University, Evanston, IL
Teaching Assistant in Industrial Engineering and Management Sciences (IEMS)

- IEMS 344, Whole-Brain Leadership Spring 2022
- IEMS 303, Statistics Spring 2021
- IEMS 342, Organizational Behavior Fall 2020 - 2022, Winter 2021 and 2022

Sabanci University, Istanbul, Turkey
Co-instructor

- ENS 208, Introduction to Industrial Engineering Fall and Spring 2012, 2013, and 2015
- IE 304, Production and Service Systems Planning and Design Fall 2016 and 2017
- IE 401, Production and Service Systems Operations Fall 2014 and Spring 2014
- Academic Support Program, mentoring MATH 101-102 Fall 2012 - 2015

PUBLISHED PAPERS (RESEARCH) AND PRESENTATIONS

- First author of the paper “Making smart recommendations for perishable and stockout products.”
 - Presented in the ACM Conference on Recommender Systems, 2022.
- Responsibilities:** Created a MIP constrained optimization model with uncertainties in inventory, demand, and number of soon-to-perish items. Found a more efficient formulation of the big model that could handle thousands of users and items with hundreds of scenarios.

- First author of the paper “A Constrained Optimization Approach for Calibrated Recommendations.”
- Presented (virtually) in the ACM Conference on Recommender Systems, 2021.
Responsibilities: Offered a scalable MIP model that can solve calibrated recommender system problems optimally. Suggested a new weighted variance metric and showed its advantages. Displayed that our model performs better than a state-of-the-art heuristic.
- First author of the paper “A unified optimization toolbox for solving popularity bias, fairness, and diversity in recommender systems.”
- Presented (virtually) in the ACM Conference on Recommender Systems, 2021.
Responsibilities: Offered an easy-to-modify MIP model that can mix and match various metrics. Showed that all the individual metrics work at least as well as the heuristics solving them. Our model can combine different metrics under one optimization model.
- Author of the paper “Conflict-free railway track assignment at depots.”
- Presented in the International Conference on Railway Operations Modelling and Analysis, 2017.
Responsibilities: Offered a MIP model solution to a train-track assignment problem that could handle different types of tracks in depots.
- First author of the MSc dissertation “A three-stage solution approach to Turkish day-ahead electricity market.”
- Presented at Sabanci University, Turkey, 2018.
Responsibilities: Created an optimization model that solved day-ahead electricity market bid matching problem by approximating the piece-wise linear objective function.

SKILLS

- **Optimization and Analytics:** Expertise in constrained optimization, mixed-integer programming, nonlinear programming, operations research, predictive analytics, and applying machine learning to real-world problems.
- **Programming and Software Proficiency:** Python, C++, R, SQL, L^AT_EX, Tableau, MongoDB, Studio3T, Neo4j; advanced experience with optimization solvers such as Gurobi, AMPL, and CPLEX.
- **Libraries and Tools:** Proficient in NumPy, SciPy, Pandas, Gurobipy, Scikit-learn, Statsmodels, PyTorch, PySpark, and Ggplot.
- **Languages:** English (Fluent), Turkish (Native).

UNIVERSITY SERVICE

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| Technology and Applied Computing Program — USC Viterbi | Fall 2023 - Present |
| <ul style="list-style-type: none"> • Full time faculty search in areas of analytics, AI, blockchain, and entrepreneurship • Helped with minor waivers, facilitated class and syllabus discussions, and collaborated with faculty on program development specifically in the APAN minor. • Learning Assistant Training and Award Selection | |

HONORS AND AWARDS

- Recipient of Outstanding Teaching Assistant Award in BS IE program at Northwestern University in the academic year 2022-2023 2023
- Recipient of Conference Travel Grant for 15th and 16th ACM Conference on Recommender Systems - RecSys; Recipient of McCormick Bridge Funding 2021-2022
- Graduated ranking 1st among undergraduate and master’s students in Industrial Engineering Department, Sabanci University 2016 & 2018