

Berk Görgülü

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RESEARCH INTERESTS Service and healthcare operations, healthcare analytics, stochastic modeling and optimization, queueing theory, interpretable machine learning

WORK EXPERIENCE **DeGroote School of Business, McMaster University**, Hamilton, ON, Canada
Assistant Professor 2023 - current

EDUCATION **University of Toronto**, Toronto, ON, Canada
Ph.D. in Mechanical and Industrial Engineering 2018 - 2023
• Advisors: Vahid Sarhangian and Jing Dong
• GPA: 4.00/4.00
Boğaziçi University, Istanbul, Turkey
M.S. in Industrial Engineering 2017 - 2018
• Advisor: Mustafa Gökçe Baydoğan
• GPA: 4.00/4.00
B.S. in Industrial Engineering 2012 - 2017
• GPA: 3.70/4.00
Minor in Management (Finance) 2012 - 2017
• GPA: 4.00/4.00

WORKING PAPERS

1. **Approximate Dynamic Programming for Multiclass Scheduling under Slowdown.** With Jing Dong and Vahid Sarhangian. Working Paper.
2. **Intepretable Machine Learning for Personalized Breast Cancer Screening Recommendations.** With Sean Berry, Mucahit Cevik and Sait Tunc. Working Paper.
3. **Machine Learning-based Kidney Allocation for High-Risk Kidneys.** With Sean Berry, Mucahit Cevik and Sait Tunc. Working Paper.

PUBLISHED PAPERS

1. **The Value of Advance Surgery Booking Information for Inventory Management of Surgical Supplies.** With Jacky Chan and Vahid Sarhangian. *Manufacturing & Service Operations Management*. 2023, forthcoming.
2. **What Causes Delays in Admission to Rehabilitation Care? A Structural Estimation Approach.** With Jing Dong and Vahid Sarhangian. *Manufacturing & Service Operations Management*. 2023, forthcoming.
 - Selected for presentation at the 2022 Healthcare Operations SIG at MSOM Conference.
3. **Column generation-based prototype learning for optimizing area under the receiver operating characteristic curve.** *European Journal of Operational Research*. With Erhan Can Ozcan and Mustafa Gökçe Baydoğan. 2023, forthcoming.

4. **Association Between Delayed Discharge from Acute Care and Rehabilitation Outcomes and Length-of-Stay: A Retrospective Cohort Study.** With Jing Dong, Karen Hunter, Krista M. Bettio, Betty Vukusic, Jonathan Ranisau, Gary Spencer, Terence Tang and Vahid Sarhangian. *Archives of Physical Medicine and Rehabilitation*. 104.1, 2023. pp. 43-51.
5. **A Newsvendor Approach to Design of Surgical Preference Cards.** With Vahid Sarhangian. *Service Science*. 14.3, 2022. pp. 213-230.
6. **Randomized trees for time series representation and similarity.** With Mustafa Gökçe Baydoğan. *Pattern Recognition*, 120, 2021. pp. 108097.
7. **Explainable boosted linear regression for time series forecasting.** With Igor Ilic, Mucahit Cevik and Mustafa Gökçe Baydoğan. *Pattern Recognition*. 120, 2021. pp. 108144.
8. **Augmented out-of-sample comparison method for time series forecasting techniques.** With Igor Ilic and Mucahit Cevik. *Canadian Conference on Artificial Intelligence*. 2020. pp. 302-308.
9. **An Adaptive Large Neighborhood Search Heuristic for Jointly Solving Storage Location Assignment and Picker Routing.** With Necati Aras. *Operations Research Proceedings 2018: Selected Papers of the Annual International Conference of the German Operations Research Society (GOR)*, 2018. pp. 301-308.
10. **A Data Adaptive Biological Sequence Representation for Supervised Learning.** With Hande Cakin, Mustafa Gökçe Baydoğan, Na Zou and Jing Li. *Journal of Healthcare Informatics Research*, 2(4), 2018. pp. 448-471.

HONORS AND AWARDS

SGS Conference Grant	2022
MIE Teaching Assistant Award	2021
Doctoral Fellowship, Department of Mechanical & Industrial Engineering, University of Toronto	2018 - 2022
University Dean's High Honor List Placed in Dean's High Honor List for 8 consecutive semesters (all semesters)	2012 - 2017

TEACHING EXPERIENCE

McMaster University , Hamilton, ON, Canada <i>Instructor</i>	
• BUS Q773 / CSE 776 - Mathematical Programming: Theory and Algorithms	Winter 2024
• IBH 2AD3 - Statistical Data Analysis	Winter 2024

TEACHING EXPERIENCE

University of Toronto , Toronto, ON, Canada <i>Teaching Assistant</i>	
• MIE 360 - System Modelling & Simulation	Fall 2018, 2019, 2020, 2021, 2022
• MIE 335 - Algorithms & Numerical Methods	Winter 2019, 2020, 2021, 2022, 2023
Boğaziçi University , Istanbul, Turkey <i>Teaching Assistant</i>	
• IE 360 - Statistical Forecasting & Time Series	Winter 2018
• IE 312 - Facility Design & Planning	Fall 2016, Winter 2017, Fall 2017
• IE 306 - System Simulation	Fall 2015

Approximate Dynamic Programming for Multiclass Scheduling under Slowdown

- INFORMS Annual Meeting, Phoenix, AZ October 2023
- INFORMS Healthcare, Toronto, ON July 2023
- M&SOM Conference, Montreal, QC June 2023

What Causes Delays in Admission to Rehabilitation Care? A Structural Estimation Approach

- INFORMS Healthcare, Toronto, ON July 2023
- INFORMS Annual Meeting, Indianapolis, IN Oct. 2022
- INFORMS Annual Meeting, Online Nov. 2021
- CORS Annual Meeting, Online July 2020
- MSOM Annual Conference, Online June 2020
- INFORMS Annual Meeting, Seattle, WA Nov. 2019
- INFORMS Annual Meeting, Phoenix, AZ Nov. 2018

A Newsvendor Approach to Design of Surgical Preference Cards

- CORS Annual Meeting, Online July 2020
- INFORMS Healthcare Conference, MIT, Cambridge, MA July 2019

Randomized trees for time series representation and similarity

- INFORMS Annual Meeting, Phoenix, AZ Nov. 2018