

Berk Görgülü

CONTACT	DeGroote School of Business, DSB414 1280 Main Street West, Hamilton, ON L8S 4M4	e-mail: gorgulub@mcmaster.ca website: www.berkgorgulu.com
RESEARCH INTERESTS	Service and healthcare operations, healthcare analytics, stochastic modeling and optimization, queueing theory, interpretable machine learning	
WORK EXPERIENCE	McMaster University , Hamilton, ON, Canada Assistant Professor, <i>DeGroote School of Business</i> 2023 - current Member, <i>Computational Science and Engineering</i> 2023 - current Associate Member, <i>Computing & Software</i> 2024 - current Toronto Metropolitan University , Toronto, ON, Canada Adjunct Professor, <i>Mechanical, Industrial, and Mechatronics Engineering</i> 2025 - current	
EDUCATION	University of Toronto , Toronto, ON, Canada <i>Ph.D. in Mechanical and Industrial Engineering</i> 2018 - 2023 • Advisors: Vahid Sarhangian and Jing Dong • GPA: 4.00/4.00 Boğaziçi University , Istanbul, Turkey <i>M.S. in Industrial Engineering</i> 2017 - 2018 • Advisor: Mustafa Gökçe Baydoğan • GPA: 4.00/4.00 <i>B.S. in Industrial Engineering</i> 2012 - 2017 • GPA: 3.70/4.00 <i>Minor in Management (Finance)</i> 2012 - 2017 • GPA: 4.00/4.00	
WORKING PAPERS	<ol style="list-style-type: none">Approximate Dynamic Programming for Multiclass Scheduling under Slowdown. With Jing Dong and Vahid Sarhangian <i>Major revision in Operations Research</i>Behaviorally-informed Strategies for Infectious Disease Mitigation: Balancing Incentives and Screening With Marie J. Rabil, Ebru K. Bish, Douglas R. Bish and Sait Tunc <i>Major revision in Operations Research</i>A Novel Adaptive Testing Scheme for Multi-disease Testing With Ebru K. Bish, Douglas R. Bish and Merve Bodur <i>Under Review in Operations Research</i><ul style="list-style-type: none">Finalist in INFORMS Public Service Operations Research 2025 Best Paper Competition (Winner to be determined)Interpretable Machine Learning for Personalized Breast Cancer Screening Recommendations. With Sean Berry, Mucahit Cevik and Sait Tunc <i>Major Revision in Healthcare Management Science</i>	

5. **Optimizing Hard-to-Place Kidney Allocation: A Machine Learning Approach to Center Ranking.** With Sean Berry, Mucahit Cevik, Sait Tunc and Matthew J Ellis
*Major Revision in **Healthcare Management Science***
6. **Prototype Forest in Multiple Instance Learning.** With Ozgur E. Sivrikaya, Ali E. Banak and Mustafa G. Baydoğan
*Under Review in **Knowledge-Based Systems***
7. **Enhanced Tree-Based Learners for Forecasting Tasks.** With Mustafa G. Baydoğan and Ş. İlker Birbil
In Progress

PUBLISHED
PAPERS

1. **Inventory Management with Advance Booking Information: The Case of Surgical Supplies and Elective Surgeries.** With Jacky Chan and Vahid Sarhangian.
Manufacturing & Service Operations Management (2024)
2. **What Causes Delays in Admission to Rehabilitation Care? A Structural Estimation Approach.** With Jing Dong and Vahid Sarhangian.
Manufacturing & Service Operations Management (2024)
 - 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.** With Erhan Can Ozcan and Mustafa Gökçe Baydoğan
European Journal of Operational Research (2024)
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 (2023)
5. **A Newsvendor Approach to Design of Surgical Preference Cards.** With Vahid Sarhangian
Service Science (2022)
6. **Randomized trees for time series representation and similarity.** With Mustafa Gökçe Baydoğan
Pattern Recognition (2021)
7. **Explainable boosted linear regression for time series forecasting.** With Igor Ilic, Mucahit Cevik and Mustafa Gökçe Baydoğan.
Pattern Recognition (2021)
8. **Augmented out-of-sample comparison method for time series forecasting techniques.** With Igor Ilic and Mucahit Cevik.
Canadian Conference on Artificial Intelligence (2020)
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)

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 (2018)

RESEARCH GRANTS

SSHRC Insight Development Grant	2025/07 - 2027/07
Source Agency: The Social Sciences and Humanities Research Council (SSHRC)	
Amount: \$61,305	
Title: Designing Fair Allocation Mechanisms for Food Rescue and Allocation	
Co-applicant: Merve Bodur	
NSERC Discovery Grant	2025/04 – 2030/04
Source Agency: The Natural Sciences and Engineering Research Council of Canada (NSERC)	
Amount: \$202,500	
Title: Control of Stochastic Queueing Networks with Endogenous Effects	
IIMF Micro Fund	2025/04 – 2030/04
Source Agency: The Office of International Affairs, McMaster University	
Amount: \$5,000	
Title: Simultaneous Disease and Specimen Pooling in Infectious Disease Testing	
SSHRC Explore	2024/01 – 2026/01
Source Agency: McMaster University	
Amount: \$7,000	
Title: Reducing Delays in Admission to Rehabilitation	
DeGroote School of Business Research Support	2023/10 – present
Source Agency: DeGroote School of Business, McMaster University	
Amount: \$25,000	
DeGroote School of Business Faculty Start-up Grant	2023/10 – present
Source Agency: DeGroote School of Business, McMaster University	
Amount: \$50,000	

RESEARCH GROUP

Süleyman Topdemir , PhD student (TMU)	(co-supervised with Mucahit Cevik)
Oğuzhan Engin , MSc student (McMaster)	
Xinxin Li , MSc student (McMaster)	(co-supervised with Yun Zhou)
Kyle Verma , MSc student (TMU)	(co-supervised with Mucahit Cevik)

TEACHING EXPERIENCE

McMaster University , Hamilton, ON, Canada	
<i>Instructor</i>	
• Commerce 3DA3 - Predictive Analytics	Fall 2024, Fall 2025
• IBH 2AD3 - Statistical Data Analysis	Winter, Fall 2024, Fall 2025
• BUS Q773 / CSE 776 - Mathematical Programming: Theory and Algorithms	Winter 2024
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	

Teaching Assistant

- 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
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CONFERENCE PRESENTATIONS

Approximate Dynamic Programming for Multiclass Scheduling under Slowdown

- INFORMS Annual Meeting, Seattle, WA October 2024
- MSOM Annual Conference, Minneapolis, MN July 2024
- CORS Annual Meeting, London, ON June 2024
- INFORMS Annual Meeting, Phoenix, AZ October 2023
- INFORMS Healthcare, Toronto, ON July 2023
- MSOM Annual 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
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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 2012 - 2017

Placed in Dean's High Honor List for 8 consecutive semesters (all semesters)