Berk Görgülü

CONTACT	DeGroote School of Business, DSB414	e-mail: gorgulub@mcmaster.ca
	1280 Main Street West,	website: www.berkgorgulu.com
	Hamilton, ON L8S 4M4	

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

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WORK EXPERIENCE

McMaster University, Hamilton, ON, Canada

Assistant Professor, *DeGroote School of Business*	2023 - current
Member, *Computational Science and Engineering*	2023 - current
Associate Member, *Computing & Software*	2024 - current

Toronto Metropolitan University, Toronto, ON, Canada

Adjunct Professor, *Mechanical, Industrial, and Mechatronics Engineering*	2025 - current

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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
   Major revision in **Operations Research**

2. **Behaviorally-informed Strategies for Infectious Disease Mitigation: Balancing Incentives and Screening** With Ebru K. Bish, Douglas R. Bish and Sait Tunc
   Major revision in **Operations Research**

3. **A Novel Adaptive Testing Scheme for Multi-disease Testing** With Ebru K. Bish, Douglas R. Bish and Merve Bodur
   Under Review in **Operations Research**

4. **Interpretable Machine Learning for Personalized Breast Cancer Screening Recommendations.** With Sean Berry, Mucahit Cevik and Sait Tunc
   Major Revision in **Healthcare Management Science**

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

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
Instructor

- 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
Teaching Assistant

- 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

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

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)