Nasrin Yousefi

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EDUCATION

Ph.D. Mechanical and Industrial Engineering 2018–2022
University of Toronto
Thesis: Inverse Optimization and its Applications in Healthcare
Advisor: Timothy C. Y. Chan

M.Sc. Industrial Engineering 2013–2015
Koç University, Istanbul
Thesis: Robust Optimization of Multi-Stage Problems
Advisors: Fikri Karaesmen, Pelin G. Canbolat

B.Sc. Industrial Engineering 2009–2013
Sharif University of Technology, Tehran

RESEARCH INTERESTS

Operations Research, Operations Management, Analytics
Healthcare Systems, Decision Making Under Uncertainty

Note: Authors are listed alphabetically in all publications.

PUBLICATIONS

Published/Accepted

T. C. Y. Chan, M. Eberg, K. Forster, C. Holloway, L. Ieraci, Y. Shalaby, N. Yousefi. An Inverse Optimization Approach to Measuring Clinical Pathway Concordance, forthcoming at ***Management Science***. Published online: October 2021. https://pubsonline.informs.org/doi/10.1287/mnsc.2021.4100

Under Review

T. C. Y. Chan, K. Forster, S. Habbous, C. Holloway, L. Ieraci, Y. Shalaby, N. Yousefi. Inverse Optimization on Hierarchical Networks: An Application to Breast Cancer Clinical Pathways, under 2nd round of review at ***Health Care Management Science***, 2021.
- Available at https://arxiv.org/pdf/2108.05806.pdf

In Preparation

A. Bayoumi, T. C. Y. Chan, K.H.B. Leung, N. Yousefi. Constrained Optimization for Decision Making in Healthcare using Python: A Tutorial, to be submitted to *Medical Decision Making*.

Work In Progress

T. C. Y. Chan, N. Sandholtz, N. Yousefi. Uncertainty Quantification in Inverse Optimization.

M. Bodur, T. C. Y. Chan, A. Cire, N. Yousefi, I. Y. Zhu. Decision Diagrams for Solving Inverse Integer Programming Problems.

T. C. Y. Chan, K. Forster, S. Habbous, C. Holloway, L. Ieraci, Y. Shalaby, N. Yousefi. Data-Driven Disease Pathway Concordance Metrics and Cost-Effectiveness Analysis.

RESEARCH AWARDS

Finalist, Pierskalla Best Paper Award, INFORMS Health Applications Society, 2021
First Place, Student Paper Competition, INFORMS Health Applications Society, 2021
First Place, Student Paper Competition (Open Category), CORS, 2021

INVITED SEMINARS

Inverse Optimization for Clinical Pathway Concordance
Industrial and Systems Engineering Department, Wayne State University, 2022

CONFERENCES

Uncertainty Quantification in Inverse Optimization
(upcoming) CORS/INFORMS International 2022

Inverse Optimization on Hierarchical Networks
INFORMS Annual Meeting 2021, Virtual
INFORMS Annual Meeting 2020, Virtual

Inverse Optimization for Clinical Pathway Concordance
INFORMS Healthcare 2021, Virtual
MSOM 2021, Virtual
CORS 2021, Virtual
POMS 2021, Virtual
INFORMS Annual Meeting 2020, Virtual
Optimization Days 2019, Montreal, QC, Canada

Robust Optimization of Optimal Stopping Problems
StochMod16, Louvain-la-Neuve, Belgium

TEACHING EXPERIENCE

Course Instructor, University of Toronto
Introduction to Quality Control (2021)

Teaching Assistant, University of Toronto
Linear Programming and Network Flows (graduate level; 2020, 2021)
Probability and Statistics with Engineering Applications (2018, 2019, 2020, 2021)
Markov Decision Processes (graduate level; 2020)
Introduction to Quality Control (2019, 2020)
Operations Research III: Advanced OR (2019)

Teaching Assistant, Koç University
Production Planning and Control (2017)
Stochastic Models and Applications (graduate level; 2016, 2017)
Operations Management (2016)
Advanced Models in Supply Chain Management (graduate level; 2016)
Applied Statistics (2014, 2015)
Stochastic Models (2014)

Probability and Statistical Methods for Engineers (2013)

Teaching Assistant, Sharif University of Technology
Plant Layout (2012, 2013)
Computers and Information Systems (2012)
Engineering Statistics (2011, 2012)

SCHOLARSHIPS & HONORS

Queen Elizabeth II Canada Scholarship in Science and Technology, 2021–2022 (C$15,000)
Faculty of Applied Science and Engineering Graduate Student Award, University of Toronto, 2020 (C$3,000)
Graduate Student Engineering Fund, University of Toronto, 2020 (C$3,000)
Peri Family Healthcare Fellowship, University of Toronto, 2019 (C$9,335)
MIE Doctoral Studies Fellowship, University of Toronto, 2018–2022
The Scientific and Technological Research Council of Turkey Scholarship, 2014–2017 (∼$36,000)
Master's Program Fellowship, Koç University, 2013
Academic Excellence Award, Sharif University of Technology, 2013
Third Rank Student (among 80+ BSc students), Department of Industrial Engineering, Sharif University of Technology, 2013

EMPLOYMENT

Research Assistant 2015–2017
Koç University, Istanbul
Project: Predict-then-Optimize Framework for Newsvendor Problems with Feature Data: A Case Study on Call Center Scheduling
Collaborators: Fikri Karaesmen, Gabor Rudolf

PROFESSIONAL SERVICE

Session Chair, CORS/INFORMS International Conference, 2022
Vice President, UTORG (University of Toronto INFORMS/CORS Chapter), 2021–Present
Event Coordinator, UTORG (University of Toronto INFORMS/CORS Chapter), 2020–2021
CUPE Liaison, International Students' Caucus, University of Toronto, 2019–2020
Volunteer, MIE Research Symposium, University of Toronto, 2018
Organizer, INFORMS APS Conference, Koç University, 2015

SKILLS

Python, MATLAB, R, C, C++, C#, Microsoft Office

LANGUAGES

Azerbaijani - Native
English - Fluent
Persian - Native
Turkish - Intermediate

MEMBERSHIPS

Institute for Operations Research and the Management Sciences (INFORMS)
Manufacturing & Service Operations Management Society (MSOM)
Women in OR/MS Forum (WORMS)
Health Applications Society (HAS)

Public Sector OR Section (PSOR)

Canadian Operational Research Society (CORS)

Production and Operations Management Society (POMS)

PERSONAL Status in Canada: permanent resident
Hobbies: reading, ice skating, biking