

Shervin AhmadBeygi

University of Michigan
Industrial and Operations Engineering
1205 Beal Ave.
Ann Arbor, MI 48109

Office: (734) 764-2349
Fax: (734) 764-3451
Email: shervin@umich.edu
Homepage: www.umich.edu/~shervin

Education

Ph.D. Industrial and Operations Engineering, University of Michigan, 2008
Area: Operations Research with emphasis on large-scale optimization under uncertainty
Applications: transportation and logistics

M.S. Industrial and Systems Engineering, Sharif University of Technology, 1999
Area: supply chain management
Applications: manufacturing

B.S. Industrial and Systems Engineering, Sharif University of Technology, 1997
Area: operations research

Research Experience

Research Fellow

University of Michigan, Industrial and Operations Engineering, 2008 - present
- Developing stochastic hospital inpatient admission control systems
- Modeling operating room scheduling under uncertainty

Graduate Student Research Assistant

University of Michigan, Industrial and Operations Engineering, 2003-2008
- Developing and solving integrated and robust airline planning problems
- Empirical study of the robustness in airline plans
- Developing and solving stochastic models to solve truckload procurement auctions

Publications

Accepted or Published

Decreasing Airline Delay Propagation By Re-Allocating Scheduled Slack
Shervin AhmadBeygi, Amy M. Cohn and Marcial Lapp
To appear in IIE Transactions, 2009.

Solving Truckload Procurement Auctions Over an Exponential Number of Bundles
Richard Chen, Shervin AhmadBeygi, Damian Beil, Amy Cohn and Amitabh Sinha
To appear in Transportation Science, 2009.

An Integer Programming Approach to Generating Airline Crew Pairings
Shervin AhmadBeygi, Amy M. Cohn and Marshall Weir
Computers & Operations Research, 36(4):1284-1298, 2009.

The Flexible Patient Flow Simulation Framework

Jonathan E. Helm, Shervin AhmadBeygi, Mark P. Van Oyen
Proceedings of the 2009 Industrial Engineering Research Conference.

Analysis of the Potential for Delay Propagation in Passenger Airline Networks

Shervin AhmadBeygi, Amy M. Cohn, Yihan Guan and Peter Belobaba
Journal of Air Transport Management, 14(5):221-236, 2008.

A Recursion-Based Approach to Simulating Airline Schedule Robustness

Marcial Lapp, Shervin AhmadBeygi, Amy M. Cohn and Omer Tsimhoni
Proceedings of the 2008 Winter Simulation Conference.

Under review

Design and Analysis of Hospital Admission Control for Operational Effectiveness

Jonathan Helm, Shervin AhmadBeygi and Mark Van Oyen
Submitted to Production and Operations Management, 2008.

Work in Progress

Stochastic Combinatorial Truckload Procurement Auctions

Shervin AhmadBeygi, Amy M. Cohn, Damian Beil, Richard Chen and Amitabh Sinha.

Conference Presentations

Decreasing Airline Delay Propagation By Re-Allocating Scheduled Slack

Shervin AhmadBeygi, Amy M. Cohn and Marcial Lapp
INFORMS Annual Conference, October 2008, Washington D.C.

Solving Stochastic Combinatorial Truckload Procurement Auctions Under Uncertainty

Shervin AhmadBeygi, Amy M. Cohn, Damian Beil, Richard Chen and Amitabh Sinha
INFORMS Annual Conference, October 2008, Washington D.C.

Understanding the Importance of Linking Admissions to Census

Shervin AhmadBeygi, Jonathan Helm and Mark Van Oyen
Third Annual Innovations in Healthcare Delivery Conference, September 2008, Cincinnati.

Stochastic Combinatorial Truckload Procurement Auctions

Shervin AhmadBeygi, Amy M. Cohn, Damian Beil, Richard Chen and Amitabh Sinha
INFORMS Annual Conference, November 2007, Seattle.

Measuring and Minimizing Delay Propagation in Passenger Airline Plans

Shervin AhmadBeygi and Amy M. Cohn
INFORMS Midwest Regional Meeting, August 2007, Evanston.

Airline Planning to Minimize Delay Propagation

Shervin AhmadBeygi, Amy M. Cohn and Peter Belobaba
IIE Annual Conference, May 2007, Nashville.

Assessing Delay Propagation in Airline Plans

Shervin AhmadBeygi, Amy M. Cohn, Yihan Guan and Peter Belobaba
INFORMS Annual Conference, November 2006, Pittsburgh.

Solving Large Crew Pairing Problems for Integrated and Robust Planning
Shervin AhmadBeygi and Amy M. Cohn
INFORMS Annual Conference, November 2005, San Francisco.

An Optimization Approach to Solving the Airline Crew Pairing Problem
Amy M. Cohn (speaker) and Shervin AhmadBeygi
IIE Annual Conference, May 2005, Atlanta.

Dominance and Indifference in Airline Planning Decisions
Amy M. Cohn (speaker), Ko-Ming Liu, Shervin AhmadBeygi
NEXTOR Conference: INFORMS Aviation Session, June 2003, Atlanta.

Teaching

Graduate Student Instructor

Linear Programming I (IOE510) - Winter 2008

- Held office hours and graded exams

Overall instructor rating:

- Winter 08: 4.63 / School average: 3.81

Introduction to optimization (IOE310) - Fall 2004, Winter 2005, Winter 2007

- Developed and taught weekly labs to introduce students to optimization software

- Software: Excel, CPLEX, AMPL

- Held office hours and review sessions; graded exams

Overall instructor rating:

- Winter 07: 4.82 / School average: 4.20

- Winter 05: 4.88 / School average: 4.16

- Fall 04: 4.79 / School average: 4.15

Introduction to probability and statistics (IOE265) - Winter 2006

- Developed and taught weekly labs to introduce students to the basic knowledge of probability and statistics

- Software: Visual Statistics, MINITAB

- Held office hours and review sessions; graded exams

Overall instructor rating:

- Winter 06: 4.72 / School average: 4.29

Linear statistical models (IOE366) - Fall 2005

- Developed and taught weekly labs to introduce students to statistical analysis software

- Software: Visual Statistics, MINITAB

- Held office hours and review sessions; graded exams

Overall instructor rating:

- Fall 05: 4.78 / School average: 4.00

Introduction to Markov processes (IOE316) - Fall 2005

- Held office hours and review sessions; graded exams

Overall instructor rating:

- Fall 05: 4.28 / School average: 4.00

Simulation (IOE474) - Winter 2004, Fall 2007

- Developed and taught weekly labs to introduce students to simulation software

- Software: VBA, GPSS/H, Stat::Fit, ProModel

- Held office hours and review sessions; graded exams

Overall instructor rating:

- Winter 04: 4.50 / School average: 4.43

- Fall 07: 4.83 / School average: 4.20

Honors and Awards

Second prize winner of the 2008 Anna Valicek Medal for original and innovative research in the application of operations research to civil airline problems

- Airline Group of the International Federation of Operations Research Societies (AGIFORS), Fall 2008

Received the 2007-08 IOE Graduate Distinguished Achievement Award

- University of Michigan, IOE department, Winter 2008

Received the Alpha Pi Mu Outstanding GSI of the Year Award

- University of Michigan, Winter 2007

Received the Outstanding Research Mentor Award

University of Michigan, College of Engineering, Winter 2006

Recognized as one of the top 10% graduate student instructor by students' evaluations for three consecutive semesters

- University of Michigan, College of Engineering, Winter 2005, Fall and Winter 2006

Valedictorian for master's degree

- Sharif University of Technology, 1999

Professional Activities

Service

Institute for Operations Research and Management Science (INFORMS)

- University of Michigan student chapter, president (2005 - 2006)

Professional Memberships

Institute for Operations Research and Management Science (INFORMS)

- *Aviation Applications Section*

- *Health Applications Section*

- *Transportation Science and Logistics Society*

The Alfred P. Sloan Foundation, Industry Studies Community

Institute of Industrial Engineers (IIE)

Computer Skills

- C/C++ , MATLAB programming

- Unix operating system

- CPLEX, AMPL, GAMS optimization software

- Promodel, Arena simulation software

- Minitab Statistical software

Work Authorization

- U.S. permanent resident

References

Professor Mark P. Van Oyen

Industrial and Operations Engineering - University of Michigan
1205 Beal Ave., Ann Arbor, MI-48109-2117
- Phone: (734)763-1454
- Email: vanoyen@umich.edu

Professor Amy M. Cohn

Industrial and Operations Engineering - University of Michigan
1205 Beal Ave., Ann Arbor, MI-48109-2117
- Phone: (734)615-7258
- Email: amycohn@umich.edu

Professor Lawrence Seiford

Industrial and Operations Engineering - University of Michigan
1205 Beal Ave., Ann Arbor, MI-48109-2117
- Phone: (734) 764-9422
- Email: seiford@umich.edu

Professor Stephen M. Pollock

Industrial and Operations Engineering - University of Michigan
1205 Beal Ave., Ann Arbor, MI-48109-2117
- Phone: (734)764-9403
- Email: pollock@umich.edu

Professor Damian R. Beil

Operations and Management Science, School of Business - University of Michigan
701 Tappan Street, ER4601, Ann Arbor, MI 48109-1234
- Phone: (734) 936-5934
- Email: dbeil@umich.edu