Mohammad Rahdar

Assistant Professor
St. Ambrose University
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ACADEMIC APPOINTMENTS

St. Ambrose University, Assistant Professor   Aug 2017 – Present

Iowa State University, Postdoctoral Research Associate   Aug 2016 – Jul 2017

Iowa State University, Research Assistant   May 2012 – Jul 2016

IAU-Damavand, Iran, Instructor   Jan 2010 – May 2010

Payam Noor University, Iran, Instructor   Aug 2007 – May 2010

EDUCATION

Ph.D., Industrial Engineering, Iowa State University, USA   Jul 2016
Advisors: Dr. Lizhi Wang, Dr. Guiping Hu
Dissertation: "Three essays on multi-level optimization models and applications"

M.S., Industrial Engineering, Isfahan University of Technology, Iran   Feb 2008

B.S., Industrial Engineering, IAU, Tehran North Branch, Iran   Sep 2004

RESEARCH INTERESTS

- Multi-level optimization models and applications
- Optimization techniques under uncertainty
- Data Analytics

PUBLICATIONS

1. **Rahdar, M.**, Wang, L. (2017). New branch and bound algorithms for the bilevel linear programming problem. Submitted to *Optimization Letters*.

2. **Rahdar, M.**, Wang, L., Hu, G. (2016). A tri-level optimization model for inventory control with uncertain demand and lead time. Submitted to *International Journal of Production Economics*.

3. **Rahdar, M.**, Wang, L., Hu, G. (2014). Potential competition for biomass between biopower and biofuel under RPS and RFS2. *Applied Energy*, 119, 10-20.

4. **Rahdar, M.**, Nookabadi, A. S. (2014). Coordination mechanism for a deteriorating item in a two-level supply chain system. *Applied Mathematical Modelling*, 38(11), 2884-2900.

5. Nookabadi, A.S., Emami, S., **Rahdar, M.** (2010). Production inventory system of deteriorating items with inflation induced demand. *International Journal of Industrial Engineering & Production Management*, 20(4), 39-51.

6. **Rahdar, M.**, Moslehi, G., Arkan, A. (2008). Integrated inventory control and inspection policy models with time value of money. *1st International Conference* of *Iranian Operations Research Society, Kish Island, Iran*.

7. Emami, S., **Rahdar, M.**, Hejazi, R. (2007). Extension of LINMAP and ELECTRE I algorithms for interval data. *5th International Industrial Engineering Conference*, Tehran, Iran.

MANUSCRIPTS IN PREPARATION

1. **Rahdar, M.**, Wang, L. A new exact algorithm for the bilevel linear programming problem.
2. **Rahdar, M.**, Wang, L., Hu, G., Dong, J., Zhou, X. A tri-level optimization model for resilient transportation network design.
3. Li Q., **Rahdar M.**, Hu G., A two-stage stochastic programming model for inventory control system under demand and lead-time uncertainty.

SELECTED PRESENTATIONS

1. **Rahdar, M**., Hu G., Wang, L., Dong, J., Zhou, X. (2016). A Trilevel Optimization Model for Resilient Transportation Network Design. INFORMS, *Nashville, TN*.
2. **Rahdar, M.**, Wang, L., Hu, G. (2015). A Robust Optimization Inventory Model with Uncertain Demand and Lead Time. *IIE Annual Conference, Nashville, TN*.
3. **Rahdar, M.**, Wang, L., Chen, B., Xu P. (2014). A New Exact Algorithm for the Bilevel Linear Programming Problem. *INFORMS, San Francisco, CA*.
4. **Rahdar, M.**, Wang, L. Hu, G. (2013). Potential competition for biomass between biopower and biofuel under RPS and RFS2. *INFORMS, Minneapolis, MN*.

TEACHING EXPERIENCE

St. Ambrose University   Fall 2017

- IE 350: Operations Planning, Scheduling and Control
- IE 391: Operations Research Probability Models
- IE 415: System Integration and Design
- IE 490: Industrial Engineering Senior Design Seminar

Iowa State University   Spring 2017

- IE 305: Engineering Economic Analysis

Iowa State University   Fall 2015

- IE 312: Optimization

IAU-Damavand, Iran   Spring 2010

- Operations Research
- Production Management
- Computer Applications in Management

Payam Noor University-Damavand, Iran   Fall 2007 − Spring 2010

- Operations Research
- Computer Applications in Management

Private Tutor   Fall 2007 − Spring 2010

- Taught MS Excel and Word to industry employees (ranging from beginner to advanced skill levels).
- Provided additional support for students to prepare for exams in a variety of academic areas.

Payam Noor University-Tehran, Iran   Fall 2009

- Information Technology Management Principles

WORK EXPERIENCE

Assistant Professor, *St. Ambrose University*   Aug 2017 − Present
- Teach core Industrial Engineering courses

Postdoctoral Research Associate, *Iowa State University*   Aug 2016 − Jul 2017
- Designed algorithms to solve bilevel linear programming problems and develop a tri-level optimization model to improve the resiliency of the transportation network against uncertain disruption.

Research Assistant, *Iowa State University*   May 2012 − Jul 2016
- Developed a tri-level optimization model to determine the order policy in a manufacturing facility, where the demand and lead time were both uncertain.
- Designed algorithms to solve bilevel linear programming problems more efficiently.
- Studied interactions between renewable energy policies in the United States over the next two decades.

Consultant, *Karaneh Varan, Consulting Engineering Company, Iran*   Jun 2007 − Jun 2008
- Assessed the feasibility of capital investment projects by analyzing the cash flow and investment return to determine if the project was profitable.
  - Logistic center in Bandar Abbas, Iran
  - Air Cargo Terminal at Abadan airport, Iran
  - Holiday complex in Tabriz, Iran
  - Dairy packaging factory, Iran

Internship, Quality Assurance, *Iran Office Machines Group, Iran*   May 2004 − Nov 2004
- Implemented the Failure Mode and Effects Analysis (FMEA) model to identify potential failure modes in CRT/LCD/LED monitor assembly lines.
- Provided control charts for CRT/LCD/LED monitor assembly lines to determine if a manufacturing process was statistically out of control.

Internship, Production Planning, *Arman Javid Industrial Company, Iran*   Oct 2003 − Apr 2004
- Prepared production timetables and managed the inventory control system

Internship, Quality Assurance, *Arman Javid Industrial Company, Iran*   Mar 2003 − Sep 2003
- Assisted in developing procedures, quality manuals, control documentation, internal audits, and corrective actions or accomplishing ISO 9000 certification.

HONORS AND AWARDS

- Teaching and Learning Associate, Center for the Integration of Research   Since Jun 2016
- Preparing Future Faculty Associate   Since Apr 2016
- Research Excellence Award, Iowa State University   2015

PROFESSIONAL ACTIVITIES

- Poster Judge, Undergraduate and Graduate Research Symposium, Iowa State Univ.   Apr 2017
- Journal Article Reviews   Since 2016
  - Applied Mathematical Modelling
  - Computers & Industrial Engineering
  - The Engineering Economist
  - International Journal of Management Science and Engineering Management
  - International Journal of Integrated Supply Management

- Student Member, IIE   Since 2015
- Session Chair, IIE Annual Conference, Nashville, TN   2015
- Active Member, Alpha Pi Mu (Industrial Engineering Honor Society)   Since 2013
- Student Member, INFORMS   Since 2012

PROFESSIONAL DEVELOPMENT

- Designing a Game-Based Learning Environment Workshop, CELT, Iowa State Univ.   Jun 2017
- Best Practices in Online Course Design Workshop, CELT, Iowa State Univ.   Jun 2017
- Inclusive Classroom Faculty Development Workshop, CELT, Iowa State Univ.   Jun 2017
- The Midwest Big Data Summer School, Iowa State Univ.   Jun 2016
- Preparing Future Faculty Program (PFF), Iowa State Univ.   May 2016
- Machine Learning (Score: 92.0%), Coursera: Stanford Univ.   Jan 2014
  Game Theory (Score: 87.2%), Coursera: Stanford Univ., The Univ. of British Columbia   Mar 2013

SKILLS

Mathematical modeling, Optimization techniques, Statistical modeling and analysis, Machine learning

MATLAB, GAMS, R, Maple, Python, Minitab, ArcGIS, Latex, MS Office programs