

Ran Ji

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EMPLOYMENT	Tenure-Track Assistant Professor , George Mason University Department of Systems Engineering and Operations Research	08/2017 - Present
	Term Assistant Professor , George Mason University Department of Systems Engineering and Operations Research M.S. Program in Data Analytics Engineering	08/2016 - 08/2017
EDUCATION	The George Washington University , Washington DC Ph.D in Decision Sciences / Operations Research Department of Decision Sciences, School of Business <ul style="list-style-type: none">• Thesis Topic: <i>Models and Algorithms for Portfolio Optimization under Uncertainty</i>• Advisor: <i>Professor Miguel A. Lejeune</i>	2012 - 2016
	The George Washington University , Washington DC M.S. in Operations Research and Management Science Department of Engineering Management and Systems Engineering	2010 - 2012
	China Agricultural University , Beijing, China B.E. in Hydraulic and Hydro-Power Engineering College of Water Resources and Civil Engineering	2006 - 2010
RESEARCH INTERESTS	<i>Theory:</i> Data-Driven Distributionally Robust Optimization, Stochastic Programming, Chance-Constrained Programming, Mixed-Integer Programming, Data Analytics and Machine Learning	
	<i>Applications:</i> Financial Risk Modeling and Portfolio Optimization, Operations and Supply Chain Management, Humanitarian Logistics and Disaster Management, Human Trafficking, Power System Resilience.	
PAPERS UNDER REVIEW OR REVISION	[1] Ji, Ran, and Miguel A. Lejeune, "Data-Driven Distributionally Robust Chance-Constrained Programming with Wasserstein Metric", Major Revision, <i>Journal of Global Optimization</i> (2019).	
	[2] Kamrad, Bardia, and Ran Ji, "Risk-Averse Newsvendor Model with Shortage Retrieval Options", Under Review (2019).	
	[3] Ji, Ran, Miguel A. Lejeune, and Zhengyang Fan*, "Distributionally Robust Portfolio Optimization with STARR Performance Measure", Under Review (2019).	
	[4] Kamrad, Bardia, and Ran Ji, "Supply Uncertainty and Multi-Sourcing Options Portfolio", Under Revision to Resubmit (2019).	
	[5] Kamrad, Bardia, Ran Ji and Glen M. Schmidt, "Mitigating Supply Risk: Sourcing as a Portfolio of Options", Under Revision to Resubmit (2019)	
JOURNAL PUBLICATIONS	[1] Ji, Ran, and Miguel A. Lejeune, "Data-Driven Optimization with Reward-Risk Ratio Measures", Accepted, <i>INFORMS Journal on Computing</i> (2020).	
	[2] Ji, Ran and Bardia Kamrad, "Newsvendor Model as an Exchange Option on Demand and Supply Uncertainty", <i>Production and Operations Management</i> (2019): 28(10), 2456-2470.	

- [3] Ji, Ran, and Miguel A. Lejeune, "Risk-Budgeting Multi-Portfolio Optimization with Portfolio and Marginal Risk Constraints", *Annals of Operations Research* (2018): 262 (2), 547-578.
- [4] Ji, Ran, Miguel A. Lejeune, and Srinivas Y. Prasad, "Properties, Formulations and Algorithms for Portfolio Optimization Using Mean-Gini Criteria", *Annals of Operations Research* (2017): 248(1), 305-343.

**BOOK
CHAPTERS**

- [1] Ji, Ran, Miguel A. Lejeune, and Srinivas Y. Prasad, "Interactive Portfolio Optimization Using Mean-Gini Criteria", *Financial Decision Aid using Multiple Criteria Models*, (2018): 49-91. Springer Cham.
- [2] Kamrad, Bardia, Ran Ji and Glen M. Schmidt, "Managing Supply Risk in Fixed Price Contracts: A Contingent Claims Perspective", *Supply Chain Finance, Special Issue of Foundations and Trends in Technology, Information, and Operations Management* (2018):11(1-2), 65-88.

**CONFERENCE
PROCEEDINGS**

- [1] Ji, Ran, K.C. Chang and Zhenlong Jiang*, "Risk-Aversion Adjusted Portfolio Optimization with Predictive Modeling", Forthcoming, *22th International Conference on Information Fusion Proceedings* (2019).
- [2] Dong, Zhijie, Shaolong Hu and Ran Ji, "A CVaR Based Facility Location Model for Uncertain Demand in Disaster Operation Management", Forthcoming, *Proceedings of 2019 IISE Annual Conference & Expo* (2019).
- [3] Ji, Ran, Miguel A. Lejeune, and Srinivas Y. Prasad, "Dynamic Portfolio Optimization with Risk-Aversion Adjustment Utilizing Technical Indicators", *20th International Conference on Information Fusion Proceedings*, 1787-1794, 2017.

*Note: Authors with * are supervised PhD students.*

**SEMINARS AND
CONFERENCE
PRESENTATIONS**

- [1] A CVaR Based Facility Location Model for Uncertain Demand in Disaster Operation Management, *IISE Annual Conference* (2019), Orlando, FL.
- [2] Newsvendor Model as an Exchange Option on Demand and Supply Uncertainty, *POMS 30th Annual Conference* (2019), Washington DC.
- [3] Data-Driven Distributionally Robust Chance-Constrained Optimization with Wasserstein Metric, *INFORMS Annual Meeting* (2018), Phoenix, AZ
- [4] Data-Driven Distributionally Robust Chance-Constrained Optimization with Wasserstein Metric, *23rd International Symposium on Mathematical Programming (ISMP 2018)*, Bordeaux, France
- [5] Data-Driven Distributionally Robust Stochastic Optimization: Theory and Applications, *Seminar at College of Water Resources and Civil Engineering, China Agricultural University* (2018), Beijing, China
- [6] Data-Driven Distributionally Robust Chance-Constrained Programming with Wasserstein Metric, *INFORMS Annual Meeting* (2017), Houston, TX.
- [7] Data-Driven Optimization of Reward-Risk Ratio Measures, *Seminar at Sy Syms School of Business, Yeshiva University* (2017), New York, NY.
- [8] Dynamic Portfolio Optimization with Risk-Aversion Adjustment Utilizing Technical Indicators, *20th International Conference on Information Fusion* (2017), Xi'an, China.
- [9] Data-Driven Optimization of Reward-Risk Ratio Measures, *Seminar at Department of Systems Engineering and Operations Research, George Mason University* (2017), Fairfax, VA.

- [10] Data-Driven Optimization of Reward-Risk Ratio Measures, *INFORMS Annual Meeting (2016)*, Nashville, TN.
- [11] Portfolio Optimization with Probabilistic Ratio Constraints, *INFORMS Annual Meeting (2015)*, Philadelphia, PA.
- [12] Risk-Budgeting Multi-Portfolio Optimization with Portfolio and Marginal Risk Constraints, *INFORMS Annual Meeting (2015)*, Philadelphia, PA.
- [13] Risk-Budgeting Multi-Portfolio Optimization with Portfolio and Marginal Risk Constraints, *22nd International Symposium on Mathematical Programming (ISMP 2015)*, Pittsburgh, PA.
- [14] Portfolio Optimization Using Gini-based Risk Measures, *INFORMS Annual Meeting (2014)*, San Francisco, CA.
- [15] Stochastic Multi-Portfolio Optimization: Threshold Boolean Programming Model and Solution, *INFORMS Annual Meeting (2013)*, Minnesota, MI.
- [16] Combinatorial Data Mining Method for Multi-Portfolio Stochastic Asset Allocation, *XIII International Conference of Stochastic Programming (ICSP 2013)*, Bergamo, Italy.
- [17] Interactive Portfolio Optimization Using Mean-Gini Criteria, *INFORMS Annual Meeting (2012)*, Phoenix, AZ.

**TEACHING
EXPERIENCE**

George Mason University, Volgenau School of Engineering Fall 2016 - Present
Instructor in Data Analytics, Systems Engineering & Operations Research Fairfax, VA

Graduate Courses

- OR-568: Applied Predictive Analytics (Spring 2019)
 - Topics: Data preprocessing, PCA, general linear regression models, regularization, SVM, random forest, boosting, KNN, neural network, association rules and market basket analysis, time-series forecasting
 - Software: R with various packages.
- OR-750: Computational Optimization (*New PhD-level Course*) (Fall 2018)
 - Topics: Convex optimization, duality theory, mixed-integer linear/nonlinear programming, robust optimization, chance-constrained stochastic programming, distributionally robust optimization
 - Software: AMPL, MATLAB-CVX.
- SYST-573: Decision and Risk Analysis (Fall 2016, Spring 2017/2018)
 - Topics: Decision-making under uncertainty, rational decision-making principles, value function, influence diagrams, decision trees, AHP, utility theory.
 - Software: Palisade Decision Tools (PrecisionTree & Risk), LDW.
- STAT-515: Applied Statistics and Visualization for Analytics (Fall 2016, Spring and Summer 2017)
 - Topics: Visualization techniques and data storytelling, methods of statistical learning including linear regression, logistic regression, classification trees, random forests, KNN, clustering, etc.
 - Software: Tableau, R with various packages.

Undergraduate Courses

- SYST-438: Analytics for Financial Engineering and Econometrics I (Fall 2017)
 - Topics: Data analysis, univariate/multivariate modeling, generalized regression, time series (ARIMA) models, factor models, modern portfolio theory, mean-variance model and CAPM, etc.

- Software: R with various packages.

The George Washington University, School of Business

2012 - 2016

Graduate Teaching Assistant

Washington DC

- Supported more than 30 MBA and Master of Science in Business Analytics (MSBA) quantitative and analytical courses covering optimization, operations research, decision making, statistics and data mining, with more than 500 students.
- Led weekly lab and review sessions (both online and in-class), prepared course slides and documents, illustrated examples, presented assignment solutions, graded assignments and exams, advised students' projects.
- Guest Lectures:
 - Introduction to AMPL
 - Introduction to IBM OPL-Cplex Optimization Studio
 - Introduction to Tableau and SAS Enterprise Miner
- Main Courses Served:

- MBAD 6221: Judgment, Uncertainty, and Decisions	Fall 2012, 2013, 2014, 2015
- MBAD 6222: Data Analysis and Decisions Making	Fall 2012, 2013, 2014, 2015
- DNSC 6251: Optimization Models for Decision Making	Spring 2014, 2016
- DNSC 6290: Decision Models for Analytics	Spring 2012, 2013
- DNSC 6290: Supply Chain Risk Analytics	Spring 2013, 2014
- DNSC 6212: Optimization Methods and Applications	Fall 2013, 2014
- DNSC 6208: Computational Optimization	Spring 2014, 2015
- DNSC 6279: Data Mining	Spring 2015, 2016
- DNSC 6275: Advanced Statistical Modeling	Spring 2014
- DNSC 6203: Statistics for Analytics	Fall 2014
- DNSC 6290: Visualization for Analytics	Summer 2015
- DNSC 6258: Executive Decision Making	Summer, Fall 2015
- DNSC 6259: Project Portfolio Management	Summer, Fall 2015
- BADM 3601: Operations Management	Spring 2014, 2016

**REVIEWER
EXPERIENCE**

- Operations Research
- Transportation Research Part E: Logistics and Transportation Review
- European Journal of Operational Research
- Quantitative Finance
- Journal of Banking and Finance
- Annals of Operations Research
- Journal of the Operational Research Society
- Optimization Methods and Software
- Journal of Industrial and Management Optimization
- Fusion Conference (2018)
- IISE Conference (2020)
- Book Reviewer for Oxford University Press (OUP) in Financial Econometrics

**PROFESSIONAL
MEMBERSHIP**

- The Institute for Operations Research and Management Science (INFORMS)
- Production and Operations Management Society (POMS)
- Mathematical Optimization Society (MOS)
- Society for Industrial and Applied Mathematics (SIAM)
- Institute of Industrial and Systems Engineers (IISE)

INTERNAL SERVICES

- SEOR Graduate Curriculum Committee Chair for Data Analytics Engineering (2018 - Present)
- SEOR Seminar/Colloquia Committee Member (2017 - Present)
- SEOR Search Committees: Term Faculty for Data Analytics Engineering (2018, 2019)
- STAT Search Committees: Term Faculty for Data Analytics Engineering (2018, 2019)
- Technical Session Chair: Sage Memorial Senior Design Capstone Conference (2018)

EXTERNAL SERVICES

- Session Chair, INFORMS Annual Meeting 2019
- Session Chair, International Symposium on Mathematical Programming (ISMP 2018)
- Guest Reviewer, International Conference on Information Fusion (Fusion 2018)
- Session Chair, INFORMS Annual Meeting 2017
- Session Chair, INFORMS Annual Meeting 2016

HONORS AND AWARDS

- Honor of Beta Gamma Sigma 2017
- GWSB PhD Fellowship and Assistantship 2012-2016
- Young Researcher Travel Scholarship for 13th ICSP Conference 2013
- Outstanding Undergraduate Research Project 2010
- CAU Scholarship for Outstanding Social and Academic Performance 2007-2009
- Excellent Student Leader 2008-2009
- Excellent Core Volunteer of Beijing Olympic and Paralympic Games 2008

SKILLS

Software: AMPL, Python, IBM OPL Cplex Studio, C++, Matlab/CVX, Xpress;
SAS/Enterprise Miner, R, Tableau, Minitab, Palisade Decision Tools.
Languages: English (full professional), Chinese Mandarin (native)