

Curriculum Vita

Misuk Lee

Albers School of Business and Economics, Seattle University
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Education

Georgia Institute of Technology, Atlanta, GA (2004 - 2009)

- Ph.D in Industrial Engineering, Aug. 2009
- Dissertation Title: Airline Passengers' Online Search and Purchase Behaviors
- Concentration: Statistics/Stochastic Systems Minor: Economics

Seoul National University, Seoul, Korea (1996-2002)

- M.S. in Industrial Engineering, Feb. 2002 - B.S. in Industrial Engineering, Feb. 2000

Professional Experience

2022 - Present Seattle University, Seattle, WA

- Associate Professor (The Albers School of Business and Economics)

2016 - 2022 Seattle University, Seattle, WA

- Assistant Professor (The Albers School of Business and Economics)

2014-2016 Salisbury University, Salisbury, MD

- Assistant Professor (The Franklin Perdue School of Business)

2013-2014 Korea Aerospace University, Korea

- Assistant Professor (College of Air Transport and Business)

2010-2013 Intercontinental Hotels Group, Atlanta, GA

- Operations Research Consultant (Revenue Management)

2009-2010 Georgia Institute of Technology, Atlanta, GA

- Post-Doc Fellow/Lecturer

2002-2004 IBM Business Consulting Services, Korea

- Consultant

Research Interests

Forecasting, Machine Learning, Revenue Management, Consumer Behavior, and Applied Statistics.

Teaching Experience

Seattle University, Seattle, WA

- BUAN 5510 Capstone Project in Business Analytics (Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021)
- IS 5310 Data Mining for Business Intelligence (Spring 2017)
- BUAN 5310 Statistical Learning (Spring 2019, Winter 2020, Winter 2021, Winter 2022)
- IS 5201 Programming for Business Analytics (Winter 2017, Winter 2018, Fall 2018, Fall 2019, Fall 2020, Fall 2021)
- IS 3150 Introduction to Information Systems (Fall 2016, Winter 2017, Spring 2017, Spring 2018, Winter 2019, Spring 2019, Winter 2021, Spring 2021, Spring 2022)

Salisbury University, Salisbury, MD

- INFO 281 Intermediate Business Statistics (Fall 2014, Spring 2015, Spring 2016)
- INFO 338 Business Analytics (Spring 2015)
- INFO 311 Business Systems Analysis (Spring 2016)

Korea Aerospace University, Korea

- Demand and Revenue Management (Spring 2014, Spring 2013)
- OR Application (Spring 2014)
- Stochastic Manufacturing and Service Systems (Fall 2013)
- Financial Accounting and ERP Systems (Fall 2013)
- Global Supply Chain Management (Fall 2013)
- Production and Service Operations Management (Spring 2013)

Georgia Institute of Technology, Atlanta, GA

- CEE 3770 Statistics and Applications (Summer 2009)

Refereed Journal Articles

- James J. Lee and Misuk Lee (2022), "Intelligent Structuration: Machine Learning Forecasting," *Issues in Information Systems*, Vol 23, 239-246.
- Misuk Lee (2020), "Will this search end up with booking? Modeling airline booking conversion of anonymous visitors," *Journal of Tourism Analysis*, forthcoming.
- Misuk Lee, Xinpan Mu, and Yiqiao Zhang (2020), "A Machine Learning Approach To Improving Forecasting Accuracy of Hotel Demand: A Comparative Analysis of Neural Networks and Traditional Models," *Issues in Information Systems*, Vol 21, Issue 1, 12-21.
- James J. Lee and Misuk Lee (2020), "Artificial Social Intelligence: Hotel Rate Prediction," *Advances in Intelligent Systems and Computing*, Vol 1130, 78-82.
- Misuk Lee (2018), "Modeling and Forecasting Hotel Demand Based On Advance Booking Information," *Tourism Management*, Vol 66, 62-71.
- Misuk Lee and Byungjong Kim (2013), "How can growth in air travel demand influence airline productivity and profitability?" *Korean Journal of Transport Research*, Vol 20, Num 3.
- Misuk Lee, Alexandre Khelifa, Laurie Garrow, Michel Bierlaire, and David Post (2012), "An analysis of destination choice for opaque airline products using multidimensional binary logit models," *Transportation Research Part A: Policy and Practice*, Vol 46, Num 10, 1641-1653.
- Laurie Garrow, Tudor D. Bodea, and Misuk Lee (2010), "Generation of Synthetic Datasets for Discrete Choice Analysis," *Transportation*, Vol 37, Num 2, 183-202.

Refereed Conference Proceedings

- Misuk Lee (2018), "Investigating the Impact of Online Browsing Dynamics on Promotion Effectiveness," *Proceedings of 2018 4th International Conference on Information Management (ICIM)*, 155-159

Invited Journal Article

- Misuk Lee (2021), "Is Machine Learning a Magic Wand?," *Boston Hospitality Review*, June 2021.

Book Chapter

- Apostolos Ampountolos, Misuk Lee, and Timothy Webb (2022), "Forecasting," *Hotel Revenue Management and Profit Optimization*. Forthcoming.
- Laurie A. Garrow, Frank S. Koppelman, and Misuk Lee (2010), "Structured Extensions of MNL and NL Discrete Choice Models," *Discrete Choice Modelling and Air Travel Demand: Theory and Applications*. Ashgate Publishing: Aldershot, United Kingdom.

Work in Progress

- Timothy Webb, Misuk Lee, Zvi Schwartz, and Ira Vouk, "Beyond Accuracy: Hotel Revenue Management Forecasting Using the k-Nearest Neighbor Algorithm", submitted to *International Journal of Hospitality Management*.
- Misuk Lee, "A New Statistical Approach to Multi-Channel Inventory Allocation Based on Seasonality", Target Journal: *Decision Support Systems*.
- James J. Lee and Misuk Lee, "Neural Network Blended Forecasting Method", Target Journal: *Communications of ACM*.
- Misuk Lee, "What Drives Travelers' Airport Choice? Interpretable Machine Learning for Choice Behavior", *Working paper*.
- Misuk Lee, "When to buy a ticket", *Working paper*.

Patent

System and Method of Executing and Controlling Workflow Processes; patented (USA)

System and Method for Creating Personalized Template for Monitoring Workflow; patented (Korea)

Honors and Awards

2021 Albers Summer Research Grants, Seattle University

May 2018 Best presentation award, 2018 4th International Conference on Information Management, Oxford, UK

Misuk Lee, "Investigating the Impact of Online Browsing Dynamics on Promotion Effectiveness."

April 2009 Best presentation award, Airline Group of the International Federation of Operational Research Societies, Athens, Greece.

Laurie Garrow and Misuk Lee, "Airline customers' online search and purchase behavior for discount fare products."

Oct. 2008 Invited to Future Academician Colloquium, INFORMS Annual Meeting, Washington D.C.

2004-2009 Graduate Research Assistantship, Georgia Institute of Technology

2004-2005 National Scholarship for Graduate Studies Abroad (\$60,000), Ministry of Information and Communication, Korea

2000-2001 Brain Korea 21 Fellowship, Seoul National University, Korea

Research Presentations

- Oct. 2022 "Intelligent Structuration: Machine Learning Forecasting," IACIS, Las Vegas, NV
- Sep. 2022 "Modelling Passengers' Airport Choice Behaviour: A Machine Learning Approach," European Conference on Data Analysis, Naples, Italy
- Nov. 2021 "A New Statistical Approach to Multi-Channel Inventory Allocation for Hotel Revenue Management", DSI Annual Meeting, Virtual
- Nov. 2020 "Neural Network Blending Structures For Forecasting," INFORMS Annual Meeting
- May 2020 "A Machine Learning Approach to Improving Forecasting Accuracy of Hotel Demand: A Comparative Analysis of Neural Networks and Traditional Models," IACIS Europe
- Nov. 2019 "Machine learning blending approach to improving forecasting accuracy," IN-FORMS Annual Meeting, Seattle, WA
- Apr. 2019 "Artificial Social Intelligence," 2018-19 Albers Scholarship Seminar Series, Seattle University, Seattle, WA
- Nov. 2018 "Modeling Passengers' Airport Choice in a Multi-Airport Region," DSI Annual Meeting, Chicago, IL
- May 2018 "Investigating the Impact of Online Browsing Dynamics on Promotion Effectiveness," 2018 4th International Conference on Information Management, Oxford, UK
- Jan. 2018 "Modeling Passengers' Airport Choice in a Multi-Airport Region" 2017-18 Albers Scholarship Seminar Series, Seattle University, Seattle, WA.
- Nov. 2016 "Modeling and Forecasting Hotel Room Demand Based on Early Booking Information," 2016-17 Albers Scholarship Seminar Series, Seattle University, Seattle, WA.
- Aug. 2013 "A New Statistical Method for Demand Forecasting," NIMS Hot Topics Workshop: Prediction using Fuzzy Theory, Daejeon, Seoul, Korea
- Nov. 2012 "Improving the Forecasting Accuracy of Hotel Arrivals: A New Non-homogeneous Poisson Approach," DSI Annual Meeting, San Francisco, CA
- Oct. 2012 "Improving the Forecasting Accuracy of Hotel Arrivals: A New Non-homogeneous Poisson Approach," INFORMS Annual Meeting, Phoenix, AZ
- Oct. 2009 "Airline Passengers' Online Search and Purchase Behaviors," INFORMS Annual Meeting, San Diego, CA
- Oct. 2009 "Airline Passengers' Online Search and Purchase Behaviors," AGIFORS Annual Symposium, Atlanta, GA
- Oct. 2008 "Optimal Search Behavior of Strategic Customers under Deadlines," INFORMS Annual Meeting, Washington D.C.
- Oct. 2008 "Airline Customers' Searching and Purchasing Behavior," INFORMS Annual Meeting, Washington D.C.
- June 2008 "When to Buy a Ticket?," 8th Conference of INFORMS Revenue Management and Pricing Section, Montreal, Canada
- June 2008 "Markov-based Models of Airline Passengers' Searching and Purchasing Behavior," 8th Conference of INFORMS Revenue Management and Pricing Section, Montreal, Canada
- Oct. 2007 "Dynamic Pricing and Buyer Learning of Product Availability," INFORMS Annual Meeting, Seattle, WA

Service

Professional	Editorial Board, Cornell Hospitality Quarterly, 2020-Present Technical Committee, International Conference on Information Management, 2018-Present Ad-hoc Reviewer, Journal of Hospitality and Tourism Technology, 2021-2022 Ad-hoc Reviewer, International Journal of Hospitality Management, 2018-2021 Ad-hoc Reviewer, Computers in Industry, 2018 Ad-hoc Reviewer, Transportation Letters, 2017 Ad-hoc Reviewer, International Conference on Information Systems, 2017 Ad-hoc Reviewer, Transportation Letters, 2017 Session Chair, INFORMS Annual Meeting, 2015 Ad-hoc Reviewer, International Journal of Advanced Logistics, 2013 Ad-hoc Reviewer, Eastern Asia Society for Transportation Studies, 2013
University	Academic Technology Committee, 2020-2023 Academic Honesty Committee, 2020-2023 Faculty Representative, Student Development Committee, 2019-2020 Department Representative: Business & Engineering Career Fair, 2018
School	Scholarship Review Committee, 2019-2024 Albers Advance Task Force, 2021-2022 Albers Scholarship Seminar Series Coordinator, 2019-2021 Grade Grievance Panel, 2021 MSBA Admissions Committee, 2018-2019 Panelist for Social Justice Presentations of Executive Leadership Program, 2019 IS Faculty Search Committee, 2018 Marketing Faculty Search Committee, 2018