

Joonho Bae

Stephen M. Ross School of Business
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Education

University of Michigan, Stephen M. Ross School of Business	Ann Arbor, Michigan
Ph.D. in Business Administration, Technology & Operations	2025
Co-advisors: Roman Kapuscinski (Chair), John Silberholz	(expected)
Korea Advanced Institute of Science and Technology (KAIST)	South Korea
M.S. in Industrial & Systems Engineering	2019
Committee: Jinkyoo Park (Chair), Il-Chul Moon, and Kyoung-Kuk Kim	
Seoul National University (SNU)	South Korea
B.S. in Statistics, Minor in Financial Economics	2016

Research Interests

Topics: Energy market; optimal battery control; system monitoring; recommendation systems
Methodology: Optimization; dynamic programming; data-driven decision making

Research

Publication/Papers Accepted for Publication

1. A Recommending System for Mobile Games using the Dynamic Nonparametric Model (with Jeonghye Choi, Jinkyoo Park, and Seung-Bum Soh), 2023. *Journal of Business Research*, 167, 114079. [\[Link\]](#)
2. Count-Based Change-Point Detection via Multi-Output Log-Gaussian Cox Processes (with Jinkyoo Park), 2020. *IIE Transactions* (formerly IIE Transactions), 52(9), 998-1013. [\[Link\]](#)
 - Preliminary version appeared at 2018 *Stochastic Processes and their Applications*, Gothenburg, Sweden

Working Papers

3. Cost-Saving Synergy: Energy Stacking in Battery Energy Storage Systems [\[Link\]](#)
 - Co-authors: Roman Kapuscinski and John Silberholz
 - *Major Revision at **Management Science***

Work in Progress

4. Dynamic Valuation of a Battery under Performance Degradation
 - Co-authors: Roman Kapuscinski and John Silberholz
5. Optimal Operational versus Financial Hedging for a Risk-Averse Firm
 - Co-authors: Roman Kapuscinski and Wanshan Zhu
6. Joint Valuation of a Battery Portfolio: Benefits of Heterogeneity
 - Co-authors: Roman Kapuscinski and John Silberholz

7. Improving the Scheduling of Energy Storage System: Case of South Korean Energy Market
 - Co-authors: Jinkyoo Park and Hyun-Soo Sim

Teaching Experience

Instructor – University of Michigan

- U-M Graduate Teacher Certificate [\[Link\]](#) 2022
 - Granted to individuals for their accomplished pedagogical training and experience as college-level instructors at the University of Michigan
- Operations Management (TO 313, BBA Core; class size 79) 2021
 - Instructor evaluation: 4.9/5.0 (Good/Excellent rating: 100%) [\[Link\]](#)
 - Recipient, 2022 – 2023 Gerald and Lillian Dykstra Fellowship for Teaching Excellence (Top 1-2 graduate student instructors in Ross School of Business)

Teaching Assistant – University of Michigan (Graduate-Level Courses)

- Applied Analytics for Decision Making (WMBA 623, avg. class size 45) 2022 – 2023
 Managerial Big Data Analytics (EMBA 610, class size 75) 2023
 Manufacturing and Supply Operations (TO 605, avg. class size 80) 2020 – 2023
 Analytics Primer (avg. class size 45) 2020 – 2023
 Applied Business Statistics (WMBA 503, class size 114) 2022

Teaching Assistant – KAIST (Undergraduate-Level Courses)

- Data-Driven Decision Making and Control (IE 481, class size 26) 2018
 Engineering Statistics I (IE 241, class size 50) 2018

Professional Experience

Dean's Office, University of Michigan, *Analytical Specialist* 2023 – 2024

- Assisted the Dean's Office at Ross School of Business with analytical projects

KAIST, *Research Fellow* 2019

- System Intelligence Lab. (PI: Jinkyoo Park), Sponsors: **LG CNS & LG Chem**
- Developed real-time monitoring systems for battery energy storage systems (BESS)
- Implemented a data-driven approach to estimate state of health for BESS

SK Telecom, *Marketing Manager* 2015 – 2017

- Managed more than 40 stores in Seoul, South Korea
- Developed optimizing tools for distribution of the cell phones

Cham Son Gil Cooperative, *Co-Founder & Project Leader* 2013 – 2015

- Established a healing center for blind masseurs and developed service/products targeting 20-30s, who were not the main customers of the original market
- Expanded branches to nationwide (12 branches as of 2024), ensuring \$3,000 monthly income for each masseur on average

Seoul National University, *Research Assistant* 2012 – 2013

- Time Series Lab. (PI: Sinsub Cho)
- Revised the Korean Educational Statistics Software for statistical analysis on Excel

- Served as Korean Augmentation to the United States Army (KATUSA)
- Honorably discharged as sergeant (Army Commendation Medal)

Presentations (* denotes scheduled)

2024	POMS Annual Conference, Purdue Operations Conference*, KAIST*
2023	Early-Career Sustainable Operations Workshop, POMS-HK Conference, POMS Annual Conference, M&SOM Annual Conference, INFORMS Annual Meeting
2022	M&SOM Annual Conference, INFORMS Annual Meeting
2021	INFORMS Annual Meeting
2018	Yonsei University Business School, Stochastic Processes and their Applications Conference, Global Marketing Conference, INFORMS Annual Meeting

Awards & Honors

University of Michigan, Rackham Predoctoral Fellowship Award	2024 – 2025
- Highest award for doctoral research at the University of Michigan	
University of Michigan, Ross School of Business Research Merit Award (\$3,000)	2024
University of Michigan, Ross School of Business Fellowship	2019 – 2024
Gerald and Lillian Dykstra Fellowship for Teaching Excellence	2022 – 2023
University of Michigan, Ross School of Business Doctoral Research Grant (\$4,000)	2023
University of Michigan, Rackham Conference Travel Grant	2021 – 2023
University of Michigan, Ross Conference Travel Grant	2021 – 2023
University of Michigan Graduate Teacher Certificate (GTC)	2022
University of Michigan, Ross Early PhD Candidacy Award (\$1,000)	2021
KOSAF, National Scholarship (Science & Technology)	2009 – 2015
Ministry of Employment & Labor of South Korea, Social Venture Idea (\$3,000)	2014
Enactus (Entrepreneurial Action Us), National Competition	2014
Seoul Metropolitan Government, Hope Advertisement	2014
Soonchunhyang University, SCH Social Venture Idea (\$1,000)	2013
SK Happiness Foundation, SK Social Enterprise (\$10,000)	2013

Service Activities

POMS Annual Conference Session Chair (Energy Markets and Storage)	2024
University of Michigan Ross PhD Forum Research Committee Chair	2022 – 2023
University of Michigan Ross PhD Forum Research Committee Member	2020 – 2023
INFORMS Annual Meeting Session Chair (SB38 in the Energy Sector)	2021
Cham Son Gil Cooperative Non-Profit Business Consulting	2015 – 2017

Other Information

Optimization/data analysis tools: Gurobi, CVX, Python, MATLAB, R, C, Tableau
 Languages: Korean (native), English (fluent)
 Hobbies: Weightlifting, running