Hyemi Kim (she/her)

Ph.D. Candidate in Operations Research

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Research Interests

Fairness, Pricing, Transportation Systems, Machine Learning

Education

Aug. 2021 – present **Ph.D. in Operations Research**, *Columbia University*, New York, USA
Advisor: Prof. Adam N. Elmachtoub

Sept. 2018 – Aug. 2020 **M.S. in Industrial & Systems Engineering**, *KAIST*, Daejeon, Korea
Advisor: Prof. Il-Chul Moon

Feb. 2012 – Aug. 2018 **B.S. in Industrial & Systems Engineering and Electrical Engineering**, *KAIST*, Daejeon, Korea
Summa Cum Laude, Graduated first in the Department of Industrial & Systems Engineering

Publication

[1] **Fair Fares for Vehicle Sharing Systems**, *Adam N. Elmachtoub and Hyemi Kim*
Operations Research, Forthcoming, 2026.
Conference on Fairness, Accountability, and Transparency (FAccT), 2025.
- *Finalist, INFORMS DEI Best Student Paper Award, 2024*
- *Finalist, INFORMS Transportation Science and Logistics Society Best Student Paper Award, 2024*

[2] **Black-Box EM Algorithm for Estimating Latent States of High-Speed Vehicles**, *Yoon-Yeong Kim, Hyemi Kim, WonSung Lee, Han-Lim Choi, and Il-Chul Moon*
American Institute of Aeronautics and Astronautics, 2021.

[3] **Counterfactual Fairness with Disentangled Causal Effect Variational Autoencoder**, *Hyemi Kim, Seungjae Shin, JoonHo Jang, Kyungwoo Song, Weonyoung Joo, Wanmo Kang, and Il-Chul Moon*
Association for the Advancement of Artificial Intelligence (AAAI), 2021.

[4] **Neutralizing Gender Bias in Word Embedding with Latent Disentanglement and Counterfactual Generation**, *Seungjae Shin, Kyungwoo Song, Joonho Jang, Hyemi Kim, Weonyoung Joo, and Il-Chul Moon*
Findings of Empirical Methods in Natural Language Processing (Findings of EMNLP), 2020.

[5] **Deep Generative Positive-Unlabeled Learning under Selection Bias**, *ByeongHu Na, Hyemi Kim, Kyungwoo Song, Weonyoung Joo, Yoonyeong Kim, and Il-Chul Moon*
Conference on Information and Knowledge Management (CIKM), 2020.

Honors and Awards

2025 Columbia-Dream Sports AI Innovation Fellowship, Columbia University
2024 Finalist, INFORMS DEI Best Student Paper Award
2024 Finalist, INFORMS Transportation Science and Logistics Best Student Paper Award
2023 Deming Doctoral Fellowship, Columbia University
2019 Songhyun Awards, KAIST
2012 Presidential Science Scholarship, KFAS

Talks

Learning Fair Demand Models

2025 INFORMS Annual Meeting, Atlanta, Georgia
2025 INFORMS RMP Conference, New York, NY

Fair Fares for Vehicle Sharing Systems

2025 ACM FAccT Conference, Athena, Greek
2025 INFORMS TSL Workshop, Seoul, Korea
2024 INFORMS DEI Best Student Paper Awards, Seattle, WA
2024 INFORMS TSL Best Student Paper Awards, Seattle, WA
2024 INFORMS RMP Conference, Los Angeles, CA
2024 Market Innovation Workshop, Virtual
2023 INFORMS Annual Meeting, Phoenix, AZ
2023 Workshop on AI & Analytics for Social Good, College Park, MD

Teaching Assistant

Fall 2024 Introduction to Probability and Statistics, Columbia IEOR
Spring 2024 Stochastic Models, Columbia IEOR
Fall 2023 Analytics in Action, Columbia Business School
Spring 2023 Transportation Analytics & Logistics, Columbia IEOR
Spring 2022 Causal Inference, Columbia IEOR
Fall 2019 Data Structure, KAIST ISysE
Fall 2018 Data Structure, KAIST ISysE

Academic Service

2026 Program Committee, IJCAI-ECAI 26: Special Track on AI and Social Good
2026 Reviewer, Fairness, Accountability, and Transparency (FAccT)
2025 – 2026 Journal Reviewer, Socio-Economic Planning Sciences
2025 Program Committee, Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)
2025 Program Committee, IJCAI – Special Track on AI and Social Good
2024 – 2026 Journal Reviewer, Journal of Risk and Insurance
2024 Program Committee, Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)

Industry Experience

Jun. 2024 – Aug. 2024 **Data Scientist Intern**, *MOLOCO, Inc.*, Redwood City, USA
Designed and executed budget pacing simulations for online advertisements.

Jan. 2021 – Jul. 2021 **AI Research Intern**, *NAVER Corporation*, Seongnam, Korea
Studied test-time training methods for robust machine learning.

Jun. 2015 – Aug. 2015 **Intern**, *Samsung Electronics*, Suwon, Korea
Analyzed smart car development trends and improved patient analysis algorithms.

Skills & Personal

Programming Python, MATLAB, C; PyTorch, TensorFlow, Gurobi, Pyomo
Languages English (advanced), Korean (native)
Hobby Brazilian jiu-jitsu