


WONYOUNG KIM

✉ wyk7@cau.ac.kr  Google Scholar link

EDUCATION

Seoul National University

Feb. 2022

Doctor of Philosophy in Statistics

Dissertation: “Efficient Linear Contextual Bandit Algorithms with Improved Regret Bounds”.

Advisor: Dr. Myunghee Cho Paik

Seoul National University

Feb. 2016

Bachelor of Science in Industrial engineering, Mathematics and Statistics (Triple Major)

Graduated Cum Laude

JOB EXPERIENCE

Assistant Professor

Mar. 2022 - Present

Department of Artificial Intelligence, Chung-Ang University

Postdoctoral Research Scientist

Sep. 2022 - Feb 2025

Department of Industrial Engineering and Operations Research, Columbia University

Advisors: Dr. Assaf Zeevi and Dr. Garud Iyengar

Postdoctoral Research Scientist

Mar. 2022 - Aug. 2022

Department of Statistics, Seoul National University.

PEER REVIEWED PUBLICATIONS

Conference Proceedings

1. Yongchan Kwon, **Wonyoung Kim**, Joong-Ho Won, Myunghee Cho Paik, “Principled Learning Method for Wasserstein Distributionally Robust Optimization with Local Perturbations”, *International Conference on Machine Learning, PMLR*, 119, 5567-5576, (2020).
2. **Wonyoung Kim**, Gi-Soo Kim, Myunghee Cho Paik, “Doubly Robust Thompson Sampling with Linear Pay-offs”, *Advances in Neural Information Processing Systems*, 34, 15830-15840, (2021). (selected for a **spotlight presentation** within **3% acceptance rate**)
3. **Wonyoung Kim**, Myunghee Cho Paik, Min-Hwan Oh, “Squeeze All: Novel Estimator and Self-Normalized Bound for Linear Contextual Bandits”, *International Conference on Artificial Intelligence and Statistics, PMLR*, 206, 3098-3124, (2023).
4. **Wonyoung Kim**, Kyungbok Lee, Myunghee Cho Paik, “Double Doubly Robust Thompson Sampling with Generalized Linear Payoffs”, *Proceedings of the AAAI Conference on Artificial Intelligence*, 37, 7, 8300-8307, (2023). (selected for an **oral presentation** with **11% acceptance rate**)
5. **Wonyoung Kim**, Garud Iyengar, Assaf Zeevi, “Improved Algorithms for Multi-Class Multi-Period Packing Problems with Bandit Feedback”, *International Conference on Machine Learning, PMLR*, 202, 16458-16501, (2023).
6. **Wonyoung Kim**, Garud Iyengar, Assaf Zeevi, “A Doubly Robust Approach to Sparse Reinforcement Learning”, *International Conference on Artificial Intelligence and Statistics. PMLR*, 238, 2305-2313, (2024).
7. **Wonyoung Kim**, Garud Iyengar, Assaf Zeevi, “Learning Pareto Front Using Bootstrapped Observation Samples”, *To be appeared in International Conference on Artificial Intelligence and Statistics. PMLR*, (2025).

Journals

1. Yongchan Kwon, **Wonyoung Kim**, Masashi Sugiyama, Myunghee Cho Paik, “Principled Analytic Classifier for Positive-unlabeled Learning via Weighted Integral Probability Metric”, *Machine Learning*, 109, 513-532, (2020).

Working Publications

1. **Wonyoung Kim**, Sungwoo Park, Garud Iyengar, Assaf Zeevi, Min-hwan Oh, “Linear Bandits for Partially Observable Features”, *Submitted to International Conference on Learning Representation*, (2025).
2. Kyungbok Lee, **Wonyoung Kim**, Min-hwan Oh, “Contextual Bandits with Surrogate Outcomes”, *Submitted to Advances in Neural Information Processing Systems*, (2024).
3. **Wonyoung Kim**, “Nearly Optimal Thompson Sampling for Linear Contextual Bandits with Missing Data Techniques”, *Submitted to Journal of the American Statistical Association*, (2025).

TEACHING EXPERIENCE

Guest Lectures:

- Python Primer for Machine Learning** (Oct. 2021) at Seoul National University
- Word Embedding in Natural Language Processing** (May 2018, Nov. 2018, Nov. 2019, Nov. 2020, Nov. 2021) at Seoul National University

Teaching Assistant:

- Introduction to Statistics (Spring 2016, Fall 2016)
- Linear Regression and Lab with R*** (Spring 2017, Spring 2021)
- Mathematical Statistics (Fall 2017, Winter 2017)
- Analysis of Repeated Measurements** (Spring 2019)
- Deep Learning: A Statistical Perspective** (Spring 2018, Fall 2018, Fall 2019, Fall 2020, Fall 2021)

** given in English

*** held R recitation classes

PRESENTATIONS

Contributed conference talk

1. Yongchan Kwon, **Wonyoung Kim**, Masashi Sugiyama, Myunghee Cho Paik, “Principled Analytic Classifier for Positive-unlabeled Learning via Weighted Integral Probability Metric”, *Asian Conference on Machine Learning (ACML) 2019*, November 17-19, 2019, Nagoya, Japan (selected for an **oral presentation**).
2. Yongchan Kwon **Wonyoung Kim**, Joong-Ho Won, Myunghee Cho Paik, “Wasserstein Distributionally Robust Optimization with Local Perturbations”, *International Conference on Econometrics and Statistics (EcoSta) 2021*, June 24-26, 2021, Virtual Conference.
3. **Wonyoung Kim**, Gi-Soo Kim, Myunghee Cho Paik, “Doubly Robust Thompson Sampling” *INFORMS Annual Meeting 2021*, October 24-27, 2021, Anaheim, CA.
4. **Wonyoung Kim**, Min-Hwan Oh, Myunghee Cho Paik, “A Near-Optimal Algorithm for Linear Contextual Bandits with Hybridization by Randomization”, *INFORMS Annual Meeting 2022*, October 16-19, 2022, Indianapolis, IN.
5. **Wonyoung Kim**, Kyungbok Lee, Myunghee Cho Paik, “Double Doubly Robust Thompson Sampling with Generalized Linear Payoffs”, *Association for the Advancement of Artificial Intelligence (AAAI)*, February 7-14, 2023, Washington DC.
6. **Wonyoung Kim**, Kyungbok Lee, Myunghee Cho Paik, “Improving Efficacy and Data Utility of Generalized Linear Contextual Bandits via Doubly Robust Method.”, *INFORMS Annual Meeting 2023*, October 15-18, 2023, Phoenix AZ.
7. **Wonyoung Kim**, Garud Iyengar, Assaf Zeevi, “Improved Algorithms for Multi-Class Multi-Period Packing Problems with Bandit Feedback.”, *INFORMS Annual Meeting 2024*, October 20-23, 2024, Seattle WA.

Invited Talk

1. **Wonyoung Kim**, Kyungbok Lee, Myunghee Cho Paik, “Improving Efficacy and Data Utility of Generalized Linear Contextual Bandits via Doubly Robust Method” *Electronic & Information Research Information Center*, May 2023, Online

GRANTS AND AWARDS

Grants

- **Sejong Science Fellowship, Overseas Postdoctoral Track (\$112,060)** 2023-2025
“Sequential Decision Making Algorithms with Improved Efficacy and Data Utility”
Funded by National Science Foundation of South Korea, PI
- **Recipient of Brain Korea Fourth Generation Grant (\$13,200)** 2020-2021
- **Recipient of Brain Korea Plus 21 Grant (\$5,500)** 2019
- **Graduate Students Research Grant for Future Industry (\$19,000)** 2017-2020
Funded by Hyundai Motors Foundation, PI
- **Recipient of Brain Korea Plus 21 Grant (\$2,750)** 2016
Funded by Ministry of Education of South Korea, Student Researcher
- **Woosan Foundation Graduate Student Research Grant (\$3,300)** 2016
Funded by Woosan Foundation, PI
- **Outstanding Paper Award (\$716)** 2024
Funded by Korean Artificial Intelligence Association
- **Outstanding Dissertation Award (\$1,530)** 2022
Funded by Seoul National University
- **Lecture & Research Scholarship (\$3,822)** 2017
Funded by Seoul National University
- **Statistic Departmental Admission with Highest Distinction Award (\$1,500)** 2016
Funded by Department of Statistics, Seoul National University
- **South Korea Presidential Science Fellowship (\$30,000)** 2011-2015
Funded by Republic of Korea Student Aid Foundation

PATENTS

- Myunghee Cho Paik, Yongchan Kwon, **Wonyoung Kim**, Masashi Sugiyama, “Method and device for binary classification using characteristics of weighted maximum mean discrepancy operations in positive-unlabeled learning”, *South Korea Patent*, 1022028230000, (2020).

PROFESSIONAL SERVICE

Conference Reviewer

- Conference on Neural Information Processing Systems, 2023
- International Conference on Learning Representations, 2024, 2025
- Conference on Artificial Intelligence and Statistics, 2024
- International Conference on Machine Learning, 2024
- The Association for the Advancement of Artificial Intelligence Conference, 2025

SOFTWARE

Expert: Linux, Python (Tensorflow and Pytorch for deep learning), R
Intermediate: C