# (ADAM) CHEOL WOO KIM

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## ACADEMIC APPOINTMENTS

**Harvard University** Boston, MA
*Postdoctoral Fellow in Computer Science* *Sep 2024 - Present*
• Advisor: Milind Tambe

## EDUCATION

**Massachusetts Institute of Technology** Cambridge, MA
*PhD in Operations Research ; GPA: 5.0/5.0* *Aug 2024*
• Advisor: Dimitris Bertsimas
• Coursework: Dynamic Programming and Reinforcement Learning, Online Learning and Optimization, Statistical Learning Theory and Applications, High-Dimensional Statistics, Probability Theory, Nonlinear Optimization, Robust Optimization, Linear and Discrete Optimization

**Seoul National University School of Law** Seoul, Republic of Korea
*J.D. Candidate* *Feb 2019 - Jul 2019*

**Seoul National University** Seoul, Republic of Korea
*B.A. in Economics (Summa Cum Laude); Major GPA: 4.24/4.30* *Feb 2019*
• Concentration in Mathematical Economics and Microeconomic Theory
• Selected Coursework: Probability Theory, Real Analysis(I/II)(II/II), Discrete Mathematics, Differential Equations, Numerical Analysis, Mathematical Statistics, Econometrics, Linear Algebra(I/II)(II/II), Contract Theory, Microeconomics, Experimental Economics, Mathematics for Economics, Statistics for Economics

## RESEARCH INTERESTS

ML–Accelerated Algorithms, Reinforcement Learning, Fairness and Pluralistic Alignment, Interface between Optimization and LLMs, AI for Decision-Making

## PAPERS *: alphabetical or co-first author

• **Kim, C.W.***, Moondra, J.*, Verma, S., Pollack, M., Kong, L., Tambe, M., Gupta, S. (2025). *Navigating the Social Welfare Frontier: Portfolios for Multi-objective Reinforcement Learning, preprint*
• Bertsimas, D.*, **Kim, C.W.*** & Niño-Mora, J*. (2024). *Fluid Approximations for Restless Multi-armed Bandits: A Machine Learning Approach, Submitted to Machine Learning*
• Bertsimas, D.* & **Kim, C.W.*** (2024). *Optimal Control of Multiclass Fluid Queueing Networks: A Machine Learning Approach, Revise and resubmit at Operations Research*
• Bertsimas, D.* & **Kim, C.W.*** (2024). *A Machine Learning Approach to Two-stage Adaptive Robust Optimization, European Journal of Operational Research*
• Bertsimas, D.* & **Kim, C.W.*** (2023). *A Prescriptive Machine Learning Approach to Mixed Integer Convex Optimization, INFORMS Journal on Computing*

## RESEARCH & WORK EXPERIENCE

**Massachusetts Institute of Technology** Cambridge, MA
*PhD Candidate* *Sep 2019 - Aug 2024*

Core Thesis Topic
• Learning-accelerated algorithms for optimization and control.

Other Projects

• Developed machine learning models to predict patient flow at Beth Israel Deaconess Medical Center (a teaching hospital of Harvard Medical School), using medical data. The prediction models are fully integrated into their system.
• Collaborated with the OCP Group to develop a machine learning model to predict agricultural yield in Morocco combining image data and chemical composition data.
• Participated in a collaborative work to combat the spread of the Covid-19 pandemic: (https://www.covidanalytics.io/)

**Microsoft Research** Redmond, WA
*Research Intern - Machine Learning and Optimization Group* *May 2023 - Aug 2023*
• Research Topic: Theory and algorithms for combinatorial optimization under uncertainty.
• Mentors: Ishai Menache, Marco Molinaro, Konstantina Mellou

**Permanent Mission of the Republic of Korea to the United Nations** New York, NY
*Research Intern - UN General Assembly Group* *Jan 2014 - Apr 2014*
• Research Topic: Revitalization of the UN General Assembly and its implications on Korea.

## TEACHING EXPERIENCE

**TA, The Analytics Edge (MIT 15.071)** *Spring 2024*
• An MBA course on statistics, machine learning, optimization and data science in general.
• Developed course materials, conducted weekly recitation class and office hours.

**TA, Optimization Methods (MIT 6.7200J/15.093J)** *Fall 2022*
• A graduate level course on mathematical optimization. Topics include linear, nonlinear, discrete, combinatorial, robust and semi-definite optimization.
• Developed course materials, conducted weekly recitation class and office hours.

**TA, Introduction to Mathematical Programming (MIT 6.251J/15.081J)** *Fall 2021*
• A PhD level course on mathematical optimization. Topics include linear, nonlinear, discrete, combinatorial, robust and semi-definite optimization.
• Developed course materials, conducted weekly recitation class and office hours.

**TA, Robust Modeling, Optimization, and Computation (MIT 1.142J/15.094J)** *Spring 2021*
• A graduate course on theory and applications of robust optimization.
• Developed course materials, conducted weekly recitation class and office hours.

## SERVICES

**Reviewer**
European Journal of Operational Research, INFORMS Journal on Optimization, Transportation Science

## AWARDS AND HONORS

**Kwanjeong Educational Fellowship** *Sep 2019 – Present*
• Merit-based PhD scholarship ($30k per year up to five years).

**Eminence Scholarship** *Aug 2017*
*Department of Economics, Seoul National University* Seoul, Republic of Korea
• Awarded to top 1% in the economics department.

## SKILLS

• **Programming**: Python, Julia, R
• **Languages**: Korean (Native), English (Fluent), Chinese (Basic Communicative Skills)