Hongseok Namkoong

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Employment

Assistant Professor, Decision, Risk, and Operations Division, Columbia Business School, 2020—Present.

Research Scientist, Facebook Core Data Science, 2019–2020.

Research Assistant, Peter W. Glynn and John C. Duchi, Stanford University, 2014–2019.

Intern, DPT Capital, Summer 2012.

Research Assistant, Woochang Kim, KAIST, 2011–2013.

Education

Ph.D. Management Science and Engineering, Stanford University, 2019
Advisors: John C. Duchi and Peter W. Glynn.

M.S. Statistics, Stanford University, 2017.

B.S. Summa Cum Laude. Industrial Engineering and Mathematics, KAIST, 2013.

Honors & Awards

Best Student Paper Award for "Statistics of Robust Optimization: A Generalized Empirical Likelihood Approach", *INFORMS Applied Probability Society*, 2018.

Best Paper Runner Up Award for "Fairness Without Demographics in Repeated Loss Minimization" (out of 2473 submissions), *International Conference on Machine Learning (ICML)*, 2018.

Best Paper Award for "Variance Based Regularization with Convex Objectives" (out of 3240 submissions), *Neural Information Processing Systems (NeurIPS)*, 2017

Samsung Fellowship, 2013–2018.

Department Fellowship, Management Science and Engineering, Stanford, 2013–2018.

KAIST President's Award (graduated top of class in the School of Engineering), 2013

Undergraduate Research Award, First Place, Department of Industrial and Systems Engineering, 2012

Publications[1]

Working papers and under review

1. J. C. Duchi, T. Hashimoto, and H. Namkoong. Distributionally robust losses against mixture covariate shifts. *Major revision in Operations Research*, 2020.

2. S. Yadlowsky, H. Namkoong, S. Basu, J. Duchi, and L. Tian. Bounds on the conditional and average treatment effect with unobserved confounding factors. *Major revision in Annals of Statistics*, 2020.

3. H. Namkoong, J. C. Duchi, and P. W. Glynn. Statistical estimation of large deviation rates: Statistical estimation of large deviation rates for i.i.d. random walks. *Working paper*, 2020.

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[1]Customary authorship ordering is by alphabetical order. Name* denotes equal contribution

4. M. O'Kelly*, A. Sinha*, H. Namkoong*, J. Duchi, R. Tedrake, and G. Peter. Scalable end-to-end autonomous vehicle testing via rare-event simulation. *To be submitted to* ACM Transactions on Modeling and Computer Simulation, 2020. Conference version appeared in NeurIPS 2018.

5. S. Jeong and H. Namkoong. Robust causal inference under covariate shift via worst-case subpopulation treatment effect. *To be submitted*, 2020. Conference version appeared in COLT 2020.

6. H. Namkoong, S. Daulton, and E. Bakshy. Distilled thompson sampling: Practical and efficient thompson sampling via imitation learning. *To be submitted to Management Science*, 2020.

Journal publications

1. J. C. Duchi and H. Namkoong. Variance-based regularization with convex objectives. *Journal of Machine Learning Research*, 2019. Conference version won Best Paper Award in NeuRIPS 2018.

2. J. C. Duchi and H. Namkoong. Learning models with uniform performance via distributionally robust optimization. *Annals of Statistics*, 2021 (forthcoming).

3. J. C. Duchi, P. W. Glynn, and H. Namkoong. Statistics of robust optimization: A generalized empirical likelihood approach. *Mathematics of Operations Research*, 2021 (forthcoming).

Refereed conference proceedings

1. H. Namkoong*, R. Keramati*, S. Yadlowsky*, and E. Brunskill. Off-policy policy evaluation for sequential decisions under unobserved confounding. In *Advances in Neural Information Processing Systems 33*, 2020.

2. S. Jeong and H. Namkoong. Robust causal inference under covariate shift via worst-case subpopulation treatment effect. In *Conference on Learning Theory*, 2020.

3. M. O'Kelly*, A. Sinha*, H. Namkoong*, J. Duchi, and R. Tedrake. Scalable end-to-end autonomous vehicle testing via rare-event simulation. In *Advances in Neural Information Processing Systems 31*, 2018.

4. R. Volpi*, H. Namkoong*, J. Duchi, V. Murino, and S. Savarese. Generalizing to unseen domains via adversarial data augmentation. In *Advances in Neural Information Processing Systems 31*, 2018.

5. T. Hashimoto, M. Srivastava, H. Namkoong, and P. Liang. Fairness without demographics in repeated loss minimization. In *International Conference on Machine Learning*, 2018. Best Paper Award Runner-up.

6. A. Sinha*, H. Namkoong*, and J. Duchi. Certifiable distributional robustness with principled adversarial training. In *International Conference on Learning Representations*, 2018.

7. H. Namkoong and J. C. Duchi. Variance regularization with convex objectives. In *Advances in Neural Information Processing Systems 30*, 2017. Best Paper Award.

8. H. Namkoong, A. Sinha, S. Yadlowsky, and J. C. Duchi. Adaptive sampling probabilities for nonsmooth optimization. In *International Conference on Machine Learning*, pages 2574–2583, 2017.

9. H. Namkoong and J. C. Duchi. Stochastic gradient methods for distributionally robust optimization with f-divergences. In *Advances in Neural Information Processing Systems 29*, 2016.

Invited Talks

2020	Samsung Advanced Institute of Technology, Seoul
2020	Google Brain, Cambridge
2020	Cancelled due to COVID-19: Conference on Information Sciences and Systems, American Causal Inference Conference, SIAM Conference on Mathematics of Data Science
2019	Uber Marketplace and Uber Eats, San Francisco
2019	OIT Division, Graduate School of Business, Stanford University
2019	Three invited talks, INFORMS Annual Meeting (Seattle, WA)
2019	Stitchfix, San Francisco
2019	Department of Computer Science, University of Wisconsin-Madison
2019	Department of Industrial and Systems Engineering, University of Wisconsin-Madison
2019	School of Operations Research and Industrial Engineering, Cornell Tech
2019	Machine Learning and Statistics Group, Microsoft Research New England
2019	Operations and Statistics Group, MIT Sloan School of Management
2019	Department of Operations Research and Industrial Engineering, University of Texas Austin
2019	Machine Learning Department, Carnegie Mellon University
2019	Heinz College, Carnegie Mellon University
2019	Department of Industrial Engineering and Operations Research, Columbia University
2019	Decisions, Risk and Operations Division, Columbia Business School
2019	Department of Electrical and Computer Engineering, Purdue University
2019	Operations Management Division, Booth School of Business, University of Chicago
2019	Data Sciences and Operations, Marshall School of Business, University of Southern California
2018	Department of Industrial and Operations Engineering, University of Michigan
2018	Three invited talks, INFORMS Annual Meeting (Phoenix, AZ)
2018	Oral Presentation, International Conference on Learning Representations (Vancouver, Canada)
2017	Oral Presentation, Neural Information Processing Systems (Long Beach, CA)
2016	Department of Industrial and Systems Engineering, KAIST
2016	Young Researchers Workshop, School of ORIE, Cornell University

Teaching

Instructor, Business Analytics II (MBA), Spring 2021, Columbia University.

Instructor, Reliable Statistical Learning (PhD), Fall 2020, Columbia University.

Head TA, Stochastic Modeling, Winter 2018 (taught by Peter Glynn), Stanford University.

TA, Information Theory and Statistics, Winter 2016 (taught by John Duchi), Stanford University.

Guest lectures at Stanford: Stochastic Modeling in Winter 2018 taught by Peter Glynn, First Year Seminar in Winter 2018, Information Theory and Statistics in Winter 2016 taught by John Duchi.

Professional Service

Journal Reviewing *Operations Research, Management Science, Journal of the American Statistical Association, Mathematical Programming, Journal of Machine Learning Research, Transactions on Pattern Analysis and Machine Intelligence, Automatica.*

Conference Reviewing *Neural Information Processing Systems, Conference on Learning Theory*

Outside Activities Columbia Business School requires faculty members to disclose any activities that might present a real or apparent conflict of interest. I currently have no outside activities fitting this description.