

YOONHAENG HUR

Curriculum Vitae

yoonhaeng.hur@columbia.edu · yoonhaenghur.github.io

ACADEMIC POSITIONS

Columbia University, United States 2025–
Postdoctoral Research Scientist, Department of Statistics
Supervisor: Genevera I. Allen
Member of the Center for Theoretical Neuroscience in the Zuckerman Institute
Member of the Irving Institute for Cancer Dynamics

EDUCATION

University of Chicago, United States 2019–2025
Ph.D. in Statistics
Thesis: Infinite-Dimensional Inference and Learning via Optimal Transport
Advisor: Tengyuan Liang; Co-Advisor: Yuehaw Khoo
Seoul National University, Korea 2012–2019
B.S. in Mathematical Sciences, B.A. in Economics
Temporary leave (2016–2018) due to military service

HONORS AND AWARDS

Rising Stars in Data Science 2024
Selected and hosted by UC San Diego, University of Chicago, Stanford University
DeepMind Student Travel Grant 2022
Awarded to 42 selected students for Conference on Learning Theory 2022
Overseas PhD Scholarship 2019–2025
Grant by Korea Foundation for Advanced Studies (KFAS)
Presidential Science Scholarship 2012–2019
Full-tuition and grant by Korea Student Aid Foundation (KOSAF)

RESEARCH

Research Interests

Fields: applied mathematics, machine learning, statistics
Topics: optimal transport, generative AI, causal inference, unsupervised learning

Working Papers

Cluster-Aware Matching via Laplacian Optimal Transport.
with G. Samberg, Y. Khoo, N. Sharon
[arXiv]
Weighted Conformal Clustering.
with A. Nath, G.I. Allen
[arXiv]

Inference for Clustering: Conformal Sets for Cluster Labels.

with A. Nath, G. Allen

[arXiv] [Code]

A Convexified Matching Approach to Imputation and Individualized Inference.

with T. Liang

[arXiv] [Code]

Publications

Learning When the Concept Shifts: Confounding, Invariance, and Dimension Reduction.

with K. Dharmakeerthi, T. Liang

Journal of the American Statistical Association, 2026 [Code]

Robust Point Matching with Distance Profiles.

with Y. Khoo

Journal of Machine Learning Research, 2025

Detecting Weak Distribution Shifts via Displacement Interpolation.

with T. Liang

Journal of Business & Economic Statistics, 2025

Reversible Gromov-Monge Sampler for Simulation-Based Inference.

with W. Guo, T. Liang

SIAM Journal on Mathematics of Data Science, 2024

Generative Modeling via Tree Tensor Network States.

with X. Tang, Y. Khoo, L. Ying

Research in the Mathematical Sciences, 2023

Generative Modeling via Tensor Train Sketching.

with J. G. Hoskins, M. Lindsey, E.M. Stoudenmire, Y. Khoo

Applied and Computational Harmonic Analysis, 2023 [Code]

Online Learning to Transport via the Minimal Selection Principle.

with W. Guo, T. Liang, C.T. Ryan

Conference on Learning Theory, 2022

INVITED TALKS

International Joint Conference on Computational and Financial Econometrics and Computational and Methodological Statistics (CFE-CMStatistics)

Berlin, Germany, 2026 (scheduled)

Joint Statistical Meetings (JSM)

Boston, US, 2026

KAIST AI Seminar

Korea Advanced Institute of Science and Technology (KAIST), Korea, 2026

Statistical Machine Learning Seminar

Columbia University, US, 2025

Rising Stars in Data Science Workshop

UC San Diego (joint with University of Chicago and Stanford University), US, 2024

MIF++ Seminar

University of Liverpool, UK, 2024 (online)

Conference on Learning Theory (COLT)
London, UK, 2022

TEACHING EXPERIENCE

Instructor , <i>Columbia University</i>	2026–
Unsupervised Learning (Fall 2026)	
Teaching Assistant , <i>University of Chicago</i>	2019–2025
Distribution Theory (Fall 2024)	
Introduction to Mathematical Probability (Spring 2021)	
Introduction to Random Matrices (Winter 2023)	
Introduction to Stochastic Processes I (Fall 2023)	
Multivariate Statistical Analysis: Applications and Techniques (Spring 2022)	
Statistical Methods and Applications (Winter 2020, Spring 2020, Fall 2020)	
Statistical Theory and Methods II (Winter 2025)	
Undergraduate Tutor , <i>Seoul National University</i>	2012–2019
Calculus 1 (Spring 2013, Spring 2018)	
Calculus 2 (Fall 2018)	
Calculus for Life Science (Spring 2015, Spring 2019)	

PROFESSIONAL SERVICE

Journal and Conference Referee	2021–
Applied Mathematics: <i>SIAM Journal on Mathematics of Data Science</i>	
Probability and Statistics: <i>Journal of the American Statistical Association, Bernoulli</i>	
Learning Theory: <i>Conference on Learning Theory</i>	
Information Theory: <i>IEEE Transactions on Information Theory</i>	

REFERENCES

Genevera I. Allen
Department of Statistics, Columbia University
genevera.allen@columbia.edu

Rina Foygel Barber
Department of Statistics, University of Chicago
rina@uchicago.edu

Yuehaw Khoo
Department of Statistics, University of Chicago
ykhoo@uchicago.edu

Tengyuan Liang
Booth School of Business, University of Chicago
tengyuan.liang@chicagobooth.edu