

Changwoo Lee

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PROFESSIONAL EXPERIENCE **Postdoctoral Associate** Jun. 2024 - current
Department of Statistical Science, Duke University Durham, NC
Mentor: Prof. David Dunson

EDUCATION **Texas A&M University** Aug. 2019 - May 2024
Ph.D. in Statistics (Advisor: Prof. Huiyan Sang) College Station, TX
Dissertation: “*Probabilistic clustering methods for complex data and related topics*”

Korea University Mar. 2012 - Feb. 2019
B.S. in Mathematics Education, B.Econ. in Statistics Seoul, Republic of Korea
Minor in Computer Science and Engineering

The University of Texas at Austin Aug. 2017 - Dec. 2017
Undergraduate Student Exchange Program Austin, TX

RESEARCH INTERESTS Bayesian hierarchical modeling, Cluster analysis, Environmental epidemiology, Markov chain Monte Carlo, Probabilistic machine learning, Spatial statistics

PEER-REVIEWED PUBLICATIONS * denotes equal contribution. Publication name: Changwoo J. Lee.
Logistic-beta processes for dependent random probabilities with beta marginals
Lee, C. J., Zito, A., Sang, H., & Dunson, D. B. (2025). *Bayesian Analysis* (in press).
A scalable two-stage Bayesian approach accounting for exposure measurement error in environmental epidemiology
Lee, C. J., Symanski, E., Rammah, A., Kang, D. H., Hopke, P. K., & Park, E. S. (2024). *Biostatistics*, 26(1), kxae038
Rapidly mixing multiple-try Metropolis algorithms for model selection problems
Chang, H.*, Lee, C. J.*, Luo, Z. T., Sang, H., & Zhou, Q. (2022). *Advances in Neural Information Processing Systems (NeurIPS)*, 35, 25842-25855. (oral-designated, top 1.9%)
Why the rich get richer? On the balancedness of random partition models
Lee, C. J. & Sang, H. (2022). *Proceedings of the 39th International Conference on Machine Learning (ICML)*, PMLR 162:12521-12541.
T-LoHo: A Bayesian regularization model for structured sparsity and smoothness on graphs
Lee, C. J., Luo, Z. T., & Sang, H. (2021). *Advances in Neural Information Processing Systems (NeurIPS)*, 34, 598-609.

PREPRINTS **Scalable and robust regression models for continuous proportional data**
Lee, C. J., Dahl, B.K., Ovaskainen, O., & Dunson, D. B. (2025). *arXiv:2504.15269* [Under review, *Journal of the American Statistical Association (Theory and Methods)*]
Marginally interpretable spatial logistic regression with bridge processes
Lee, C. J. & Dunson, D. B. (2024). *arXiv:2402.07048* [Revise and Resubmit, *Statistics in Medicine*]
Loss-based objective and penalizing priors for model selection problems
Lee, C. J. (2023). *arXiv:2311.13347* [Reject and Resubmit, *Bayesian Analysis*]

TEACHING
EXPERIENCE

Instructor, Texas A&M University

- Summer 2021: Statistical Methods (STAT303), class size: 59 [[course evaluation](#)]

Teaching assistant, Texas A&M University

- Spring 2024: Statistical Methodology II, Bayesian Modeling and Inference (STAT632)
- Spring 2020: Overview of Mathematical Statistics (STAT630)
Applied Categorical Data Analysis (STAT659)
- Fall 2019: Overview of Mathematical Statistics (STAT630)

Teaching assistant, Korea University

- Spring 2019: Introduction to Probability Theory (STAT221)
- Fall 2018: Introduction to Bayesian Statistics (STAT404)
Introduction to Probability Theory (STAT221)

HONORS

Best long talk award, in 2025 Bayesian Young Statisticians Meeting,
Junior Section of the International Society of Bayesian Analysis (j-ISBA)

IMS Hannan graduate student travel award, 2024,
Institute of Mathematical Statistics (IMS)

Early career award, 2024,
Section on Statistics in Epidemiology, American Statistical Association

Poster award in 2024 ISBA world meeting,
International Society for Bayesian Analysis (ISBA)

Joe Newton poster award (honorable mention) in 2022 Conference on Advances in Data Science,
Texas A&M Institute for Applied Mathematics & Computational Science

Poster award in 2022 ISBA world meeting,
Section on Bayesian nonparametrics, International Society for Bayesian Analysis

1st place poster award in 2022 annual poster competition,
Southeast Texas chapter of the American Statistical Association

Anant M. Kshirsagar endowed fellowship, 2021,
Department of Statistics, Texas A&M University

The Korean government scholarship program for study overseas, 2019-2021,
National Institute for International Education, Korea Ministry of Education

PRESENTATIONS

Scalable and robust regression models for continuous proportional data

- Invited session talk, CMStatistics 2025 (upcoming)
- Invited session talk, 2025 Eastern Asian Chapter of ISBA Conference, virtual (upcoming)
- Session talk, 2025 National Institute of Statistical Sciences Virtual New Researchers Conference, virtual

Marginally interpretable spatial logistic regression with bridge processes

- Topic-contributed talk, 2025 Joint Statistical Meetings, Nashville, TN (upcoming)

A scalable two-stage Bayesian approach accounting for exposure measurement error in environmental epidemiology

- Contributed talk, 2024 Joint Statistical Meetings, Portland, OR

Logistic-beta processes for dependent random probabilities with beta marginals

- Contributed talk, 2025 International Conference on Bayesian Nonparametrics, UCLA, CA
- Poster presentation, 2024 ISBA world meeting, Venice, Italy
- Poster presentation, 2023 Bayesian nonparametrics networking workshop, Melbourne, Australia

Loss-based objective and penalizing priors for model selection problems

- Long talk, 2023 Bayesian Young Statisticians Meeting (BAYSM 2023), virtual

- Poster presentation, 2023 Southeast Texas chapter of the American Statistical Association poster competition, Texas A&M University, TX

Rapidly mixing multiple-try Metropolis algorithms for model selection problems

- Deep-dive session, NeurIPS 2022, virtual

- Poster presentation, 2022 Conference on Advances in Data Science, Texas A&M University, TX

Graph product partition models

- Contributed talk, 2023 Joint Statistical Meetings, Toronto, Canada

- Invited session talk, 2023 Eastern Asian Chapter of ISBA Conference, virtual

- Contributed talk, 2022 Joint Statistical Meetings, Washington, DC

- Poster presentation, 2022 SETCASA poster competition, Texas A&M University, TX

Why the rich get richer? On the balancedness of random partition models

- Spotlight talk and poster presentation, ICML 2022, Baltimore, MD

- Poster presentation, 2022 ISBA world meeting, Montreal, Canada

A Bayesian regularization model for structured sparsity and smoothness on graphs

- Poster presentation, NeurIPS 2021, virtual

- Contributed talk and poster presentation, 2021 ISBA world meeting, virtual

On the Bayesian non-crossing joint quantile regression based on asymmetric Laplace likelihood with sandwich covariance matrix

- Poster presentation, 2020 Joint Statistical Meetings, virtual

SERVICE

Journal reviewer: *Annals of Statistics, Bayesian Analysis, Biometrics, Biometrika, Chemometrics and Intelligent Laboratory Systems, Computational Statistics, Computational Statistics and Data Analysis, Journal of the American Statistical Association, TEST*

Peer-reviewed conference reviewer: *ICML, NeurIPS*

Conference Session organizer: Joint Statistical Meetings 2025

Conference Session chair: Joint Statistical Meetings 2023, Joint Statistical Meetings 2025

Other Service: Republic of Korea Air force, Sergeant, 2014-2016

REFERENCES

Dr. Huiyan Sang

Professor

Department of Statistics, Texas A&M University

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Dr. Eun Sug Park

Senior Research Scientist

Texas A&M Transportation Institute

e-park@tti.tamu.edu

Dr. David Dunson

Arts and Sciences Distinguished Professor

Department of Statistical Science, Duke University

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