

PENG ZHAO

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EDUCATION

Florida State University, FL, USA

Aug. 2015 - Aug. 2020

Department of Statistics

Ph.D. in Statistics

Advisor: Yiyuan She, Ph.D. and [Yun Yang](#), Ph.D.

Beijing Institute of Technology, Beijing, China

Aug. 2011 - June 2015

School of Mathematics and Statistics

B.S. in Statistics

GPA 3.7, rank 1/26

RESEARCH INTERESTS

High-dimensional statistics; implicit/algorithmic regularization; network data analysis; multivariate statistics; nonparametric Bayes.

ACADEMIC APPOINTMENTS

Assistant Professor

Jul. 2023 – present

Department of Applied Economics and Statistics, University of Delaware

Resident Faculty

Jul. 2023 – present

Data Science Institute, University of Delaware

Postdoctoral Researcher

Aug. 2020 – Jun. 2023

Department of Statistics, Texas A&M University

PUBLICATIONS

(* corresponding author)

Peer-reviewed journal articles

- Dasgupta, S., **Zhao, P.**, Helwig, J., Ghosh, P., Pati, D., and Mallick, B. An approximate Bayesian approach to covariate-dependent graphical modeling. *Bernoulli*, accepted.
- Lee, S., **Zhao, P.**, Pati, D., and Mallick, B. (2024). Tail-adaptive Bayesian shrinkage. *Electronic Journal of Statistics*, 18(2), 4667–4723. [\[link\]](#)
- Zhao, P.***, Bhattacharya, A., Pati, D., and Mallick, B. (2024). Structured optimal variational inference for dynamic latent space models. *Journal of Machine Learning Research*, 25(259), 1–55. [\[link\]](#)
- Helwig, J., Dasgupta, S., **Zhao, P.**, Mallick, B., and Pati, D. (2024). covdepGE: A covariate-dependent approach to Gaussian graphical modeling in R. *ACM Transactions on Mathematical Software*, 50(2), Article 16, 1–32.
- Lee, K., **Zhao, P.**, Bhattacharya, A., Mallick, B., and Xie, L. (2024). An active learning-based approach for hosting capacity analysis in distribution systems. *IEEE Transactions on Smart Grid*, 15(1), 617–626. [\[link\]](#)
- Zhao, P.***, Yang, Y., and He, Q. (2022). High-dimensional linear regression via implicit regularization. *Biometrika*, 109(4), 1033–1046. [\[link\]](#)

Refereed conference proceedings

1. **Zhao, P.**, Yang, H.-C., Dey, D. K., and Hu, G. (2023). Spatial clustering regression of count value data via Bayesian mixture of finite mixtures. In *Proceedings of KDD 2023*, 3504–3512. [\[link\]](#)
2. Tong, G., **Zhao, P.**, and Samizadeh, M. (2024). Query-decision regression between shortest path and minimum Steiner tree. In *PAKDD 2024*, 314–326. [\[link\]](#)
3. **Zhao, P.** and Hu, G. (2021). Approximate Bayesian estimation with subsampled logistic regression in big data settings. In *2021 IEEE International Conference on Big Data*, 58–64. [\[link\]](#)

Discussions

1. **Zhao, P.**, Yang, H.-C., Dey, D. K., and Hu, G. (2021). Discussion of “Multilevel Linear Models, Gibbs Samplers and Multigrid Decompositions”. *Bayesian Analysis*, 16(4), 1383–1385.

Preprints

1. **Zhao, P.** Beyond Negative-Ridge Endpoints: Mixed-Sign Spectral Regularization via Negative-Shifted Gradient Descent. [\[arXiv\]](#)
2. **Zhao, P.** De-floored Principal Component Regression: When Rank Selection Alone Is Insufficient for Prediction. [\[arXiv\]](#)
3. **Zhao, P.***, Bhattacharya, A., Pati, D., and Mallick, B. Factorized fusion shrinkage for dynamic relational data. [\[arXiv\]](#)

FUNDED GRANT PROPOSALS

- | | |
|---|---------------------------------|
| 1. Title: <i>Graph Machine Learning</i> . | Role: Co-PI (2026–present) |
| Sponsor: Microsoft Research. | Allocated Budget: \$183,700.46. |

PRESENTATIONS

Invited Talks and Participated Workshops

2026 ICSA Applied Statistics Symposium, Arlington, US	<i>June 2026</i>
University of Delaware, Department of Computer and Information Sciences, Newark, US	<i>Sept. 2025</i>
2025 ICSA Applied Statistics Symposium, Storrs, US	<i>June 2025</i>
University of Houston, Department of Mathematics, Houston, US	<i>Mar. 2025</i>
University of Delaware, Department of Electrical & Computer Engineering, Newark, US	<i>Sept. 2024</i>
2024 Joint Statistical Meetings, Portland, US	<i>Aug. 2024</i>
24th Meeting of New Researchers in Statistics and Probability, Corvallis, OR, US	<i>Aug. 2024</i>
The 7th International Conference on Econometrics and Statistics, Beijing, China	<i>July. 2024</i>
2024 MPS Workshop for New Investigators, Alexandria, US	<i>July. 2024</i>
2024 ICSA Applied Statistics Symposium, Nashville, US	<i>June. 2024</i>
CM Statistics 2023, Berlin, Germany	<i>Dec. 2023</i>
2023 International Society for Bayesian Analysis East Asian Chapter, Qingdao, China	<i>June 2023</i>
Texas A&M University Spatial Statistics Reading Group, College Station, US	<i>April 2023</i>
2022 International Chinese Statistical Association China Conference, virtual	<i>July 2022</i>
2021 International Chinese Statistical Association Applied Statistics Symposium, virtual	<i>Sept. 2021</i>

2019 International Chinese Statistical Association China Conference, Tianjin, China *July 2019*

Contributed Talks

2021 IEEE International Conference on Big Data, virtual *Dec. 2021*

2019 Joint Statistical Meetings, Denver, US *Aug. 2019*

SOFTWARE

R package *covdepGE*: A covariate-dependent approach to Gaussian graphical modeling (available on CRAN) [\[link\]](#)

TEACHING EXPERIENCE

University of Delaware, Instructor

- STAT 675 - Logistics Regression *Spring 2026*
- STAT 602 - Mathematical Statistics *Spring 2024-2026*
- STAT 601 - Probability Theory for Operations Research and Statistics *Fall 2024*
- STAT 611 - Regression Analysis *Fall 2023*

Texas A&M University, Guest Lecture

STAT 695 - Frontiers in Statistical Research – Statistical Inference for Network Data *April 2023*
STAT 616 - Statistics Aspects of Machine Learning *Oct. 2021*

Florida State University, Solo Instructor

STAT 2122 - Introduction to Applied Statistics
Semesters: Summer 2017, Fall 2017, Spring 2018, Fall 2018, Fall 2019.

Florida State University, Teaching Assistant

Aug. 2015 – May 2017

STA 2023 - Fundamental Business Statistics
CGS 2518 - Spreadsheets for Business
STA 4203/5207 - Applied Regression Methods

CURRENT STUDENTS AND MENTEES

- Yuanyu Li (former M.S. student; currently Ph.D. candidate, Department of Electrical and Computer Engineering, University of Delaware)
- Nischal Subedi (Ph.D. candidate, Department of Applied Economics and Statistics, University of Delaware)
- Ji Shi (postdoctoral mentee; currently Postdoctoral Researcher, Department of Mathematics, University of Houston)
- Linh Cao (Ph.D. candidate, Department of Mathematics, University of Houston)

HONORS AND AWARDS

Outstanding Teaching Assistant Award (OTAA) nomination, FSU *Feb. 2016*
SETCASA Poster Competition Honorable Mentions, TAMU *May 2022*

Editorial Board services:

Associate Editor, Sankhya Series A

Referee services:

Journal of the American Statistical Association,
Journal of Machine Learning Research,
Electronic Journal of Statistics,
Journal of Business & Economic Statistics,
Journal of Computational and Graphical Statistics,
Bayesian Analysis,
Technometrics,
Statistics and Computing,
Statistica Sinica,
Journal of Multivariate Analysis,
Scientific Advance,
Transactions on Network Science and Engineering,
Computational Statistics,
Statistics and Its Interface,
Metrika,
Stat,
Journal of Combinatorial Optimization,
International Conference on Knowledge Discovery and Data Mining (KDD) 2023.

Referee for SBSS 2023 Student Paper Competition

Referee for SETCASA 2023 Poster Competition

Session Chair services:

2026 ICSA Applied Statistics Symposium,
2022 International Chinese Statistical Association China Conference,
2021 IEEE International Conference on Big Data,
2019 International Chinese Statistical Association China Conference.

Session Organizer services:

2023 International Society for Bayesian Analysis East Asian Chapter.

Departmental committee:

University of Delaware, Department of Applied Economics and Statistics:

- Statistics Colloquium Coordinator *Fall 2024-now*
- Statistics MS program committee *Fall 2023-now*
- Statistics Ph.D. Program committee *Fall 2023-now*

University of Delaware, Data Science Institute:

- Data science MS program Executive Committee *Fall 2024-now*

Professional service:

Member-at-Large, American Statistical Association Philadelphia Chapter

Mentoring services:

American Statistical Association Philadelphia Chapter

PROFESSIONAL MEMBERSHIPS

Member for

American Statistical Association (ASA),
International Chinese Statistical Association (ICSA),
Institute of Mathematical Statistics (IMS).

PROFESSIONAL EXPERIENCE

Data Science Intern
Liberty Mutual Insurance

June 2018 – Aug 2018

TECHNICAL STRENGTHS

R, Python (PyTorch), C++, Matlab, R Shiny, SAS, SQL, Excel and others