

Weixin Yao

CONTACT INFORMATION

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Department of Statistics
University of California
Riverside, CA 92521

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RESEARCH INTERESTS

Mixture models, nonparametric and semiparametric statistical learning, robust data analysis, longitudinal data analysis, high dimensional data analysis

EDUCATION

The Pennsylvania State University-University Park

Ph.D. in Statistics, August 2007

- Dissertation Topic: “On Using Mixtures and Modes of Mixtures in Data Analysis”
- Advisors: Dr. Bruce G. Lindsay and Dr. Runze Li

University of Science and Technology of China

B.S. in Statistics, July 2002

PROFESSIONAL EXPERIENCE:

- 2022-present:** Professor and Vice Chair of Statistics, University of California, Riverside, CA.
2020-2022: Professor of Statistics (Step III), University of California, Riverside, CA.
2014-2020: Associate Professor of Statistics (Step I-IV), University of California, Riverside, CA.
2013-2014: Associate Professor of Statistics, Kansas State University, Manhattan, KS.
2007-2013: Assistant Professor of Statistics, Kansas State University, Manhattan, KS.

EDITORIAL SERVICE

- Guest Editor, *Advances in Data Analysis and Classification*, special issue on “Models and Learning for Clustering and Classification”, 2020-2021
- Associate Editor, *Advances in Data Analysis and Classification*, (2022-present)
- Associate Editor, *Biometrics* (2018-present)
- Associate Editor, *Journal of Computational and Graphical Statistics* (2018-present)
- Associate Editor, *Journal of Multivariate Analysis* (2018, 2019)
- Associate Editor, *The American Statistician* (2017-present)
- Editor, Proceeding of Conference on Applied Statistics in Agriculture, Manhattan KS, 2011.

REFERRED

PUBLICATIONS AND MANUSCRIPTS

Referred publications. Advised student authors are underlined.

1. Xiang, S. and Yao, W.* (2022). Nonparametric Statistical Learning Based on Modal Regression. *Journal of Computational and Applied Mathematics*, 409, 114-130.
2. Xue, J. and Yao, W.* (2022). Machine Learning Embedded Semiparametric Mixtures of Regressions with Varying Mixing Proportions, *Econometrics and Statistics*, 22, 159-171.
3. Lubich, B., Jeske, D., and Yao, W. (2022). Statistical Inference for Method of Moments Estimators of a Semi-Supervised Two-Component Mixture Model. *The American Statistician*, 76, 376-383.
4. Ullah, A., Wang, T., and Yao, W. (2022). Nonlinear Modal Regression for Dependent Data with Application for Predicting COVID-19. *Journal of the Royal Statistical Society: Series A*, 185, 1424-1453.
5. Zhu, H., Li, Y., Liu, B., Yao, W., and Zhang, R. (2022). Extreme quantile estimation for partial functional linear regression models with heavy-tailed distributions. *The Canadian Journal of Statistics*, 50, 267-286.
6. Zhu, H., Zhang, R., Li, Y., and Yao, W. (2022). Estimation for Extreme Conditional Quantiles of Functional Quantile Regression. *Statistica Sinica*, 32, 1767-1787.

7. Li, Y., Yu, C., Zhao, Y., **Yao, W.**, Aseltine, R., and Chen, K. (2022). Pursuing Sources of Heterogeneity in Modeling Clustered Population. *Biometrics*, 78, 716-729.
8. Ullah, A., Wang, T., and **Yao, W.** (2021). Modal Regression for Fixed Effects Panel Data. *Empirical Economics*, 60, 261-308.
9. Cong, L. and **Yao, W.***(2021). A Likelihood Ratio Test of a Homoscedastic Multivariate Normal Mixture Against a Heteroscedastic Multivariate Normal Mixture. *Econometrics and Statistics*, 18, 79-88.
10. Jeske, D. and **Yao, W.** (2020). Sample size calculations for mixture alternatives in a control group vs. treatment group design. *Statistics*, 54, 97-113.
11. Kabir, F. Yu, N., **Yao, W.**, Yang, R., and Zhang, Y. (2020). Joint Estimation of Behind-the-Meter Solar Generation in a Community. *IEEE Transactions on Sustainable Energy*, 12, 682-694.
12. Ma, Y., Wang, S., Xu, L., **Yao, W.***. (2021). Semiparametric Mixture Regression with Unspecified Error Distributions. *Test*, 30, 429-444.
13. Huang, M., He, K., and **Yao, W.***. (2021). Regression Estimation via Information-Weighted Composite Models with Different Dimensions. *Communications in Statistics-Simulation and Computation*, 50, 1613-1621.
14. Jiang, L., **Yao, W.**, and Li, L. (2020). Bayesian Hyper-LASSO Classification for Feature Selection with Application to Endometrial Cancer RNA-seq Data. *Scientific Reports*, 10, 1-16.
15. Xiang, S. and **Yao, W.** (2020). Semiparametric mixtures of regressions with single-index for model based clustering. *Advances in Data Analysis and Classification*, 14, 261-292.
16. Yu, C., **Yao, W.**, and Yang, G. (2020). A Selective Overview and Comparison of Robust Mixture Regression Estimators. *International Statistical Review*, 88, 176-202.
17. Kabir, F., Yu, N., **Yao, W.**, Yang, R. and Zhang, Y. (2019). Estimation of Behind-the-Meter Solar Generation by Integrating Physical with Statistical Models. *2019 IEEE SmartGrid-Comm*, pp.1-6.
18. Xiang, S., **Yao, W.**, and Yang, G. (2019). An Overview of Semiparametric Extensions of Finite Mixture Models, *Statistical Science*, 34, 391-404.
19. **Yao, W.***, Nandy, D., Lindsay, B., and Chiaromonte, F. (2019). Covariate Information Matrix for Sufficient Dimension Reduction. *Journal of the American Statistical Association*, 114, 1752-1764.
20. Xu, L., Xiang, S., and **Yao, W.***(2019). Robust Maximum Lq-likelihood Estimation of Dynamic Covariance Models for Longitudinal Data. *Journal of Multivariate Analysis*, 171, 397-411.
21. Wichitchan, S., **Yao, W.**, and Yang, G. (2019). A Simple Root Selection Method For Univariate Finite Normal Mixture Models. *Communications in Statistics-Theory and Methods*, 48, 3778-3794.
22. Wichitchan, S., **Yao, W.**, and Yang, G. (2019). Hypothesis Testing for Finite Normal Mixture Models. *Computational Statistics and Data Analysis*, 132, 180-189.
23. Yang G., **Yao, W.**, and Xiang, S. (2019). Sure Independence Screening in Ultrahigh Dimensional Generalized Additive Models. *Journal of Statistical Planning and Inference*, 199, 126-135.
24. Kabir, F., Yu, N., **Yao, W.**, Wu, L., Jiang, J., Gu, Y., and Su, H. (2018). Impact of Aerosols on Reservoir Inflow: A Case Study for Big Creek Hydroelectric System in California. *Hydrological Processes*, 32, 3365-3390.

25. Yang, J., Yu, N., **Yao, W.**, Wong, A., Juang, L., and Johnson, R. (2018). Evaluating the Effectiveness of Conservation Voltage Reduction with Multilevel Robust Regression. In *2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)*, pp. 1-6.
26. Li, L. and **Yao, W.** (2018). Fully Bayesian Logistic Regression with Hyper-Lasso Priors for High-dimensional Feature Selection. *Journal of Statistical Computation and Simulation*, 88, 2827-2851.
27. Jeske, D. R., Kürüm, E., **Yao, W.**, and Rizzo, S. (2018). Two-stage prediction in Linear Models. *Sequential Analysis*, 37, 311-321.
28. Peng, H., Jeske, D. R., SenGupta, A., and **Yao, W.**(2018). Designing One-Sided Group Sequential Clinical Trials to Detect a Mixture Alternative. *Sequential Analysis*, 37, 268-291.
29. Huang, M., **Yao, W.***, Wang, S., and Chen, Y. (2018). Statistical Inference and Applications of Mixture of Varying Coefficient Models. *Scandinavian Journal of Statistics*, 45, 618-643.
30. Huang, M., Ji, Q., and **Yao, W.***(2018). Semiparametric Hidden Markov Model with Non-parametric Regression. *Communications in Statistics-Theory and Methods*, 47, 5196-5204.
31. Xiang, S. and **Yao, W.** (2018). Semiparametric Mixtures of Nonparametric Regressions. *Annals of the Institute of Statistical Mathematics*, 70, 131-154.
32. Cacho, A., **Yao, W.**, and Cui, X. (2018). Base-calling using a random effects mixture model on next-generation sequencing data. *Statistics in Biosciences*, 10, 3-19.
33. Wu, J., **Yao, W.**, and Xiang, S. (2017). Computation of an efficient and robust estimator in a semiparametric mixture model. *Journal of Statistical Computation and Simulation*, 87, 2128-2137.
34. Hu, H., **Yao, W.**, and Wu, Y.(2017). The robust EM-type algorithms for log-concave mixtures of regression models. *Computational Statistics and Data Analysis*, 111, 14-26.
35. Yu, C., **Yao, W.**, and Chen, K. (2017). A New Method for Robust Mixture Regression. *The Canadian Journal of Statistics*, 45, 77-94.
36. Chen, Y. and **Yao, W.***(2017). Unified Inference for Sparse and Dense Longitudinal Data in Time-Varying Coefficient Models. *Scandinavian Journal of Statistics*, 44, 268-284.
37. Wu, Q. and **Yao, W.** (2017). Relabel mixture models via modal clustering. *Communications in Statistics-Simulation and Computation*, 46, 3406-3418.
38. Yu, C. and **Yao, W.***(2017). Robust Linear Regression: A Review and Comparison. *Communications in Statistics-Simulation and Computation*, 46, 6261-6282.
39. Yang, L., Xiang, S., **Yao, W.** (2017). Robust Fitting of Mixtures of Factor Analyzers Using the Trimmed Likelihood Estimator. *Communications in Statistics-Simulation and Computation*, 46, 1280-1291.
40. Shi, J., Yu, N., and **Yao, W.** (2017). Energy efficient building HVAC control algorithm with real-time occupancy prediction. *Energy Procedia*, 111, 267-276.
41. Li, M., Xiang, S., **Yao, W.** (2016). Robust Estimation of the Number of Components for Mixtures of Linear Regression Models. *Computational Statistics*, 31, 1539-1555.
42. Xiang, S., **Yao, W.**, and Seo, B. (2016). Semiparametric Mixture: Continuous Scale Mixture Approach. *Computational Statistics and Data Analysis*, 103, 413-425.
43. Zhou, X., Yu, N., **Yao, W.**, and Johnson, R. (2016). Forecast Load Impact from Demand Response Resources. In *Power and Energy Society General Meeting (PESGM)*, 2016, (pp. 1-5). IEEE. Nominated for *Best Paper Award in Electric vehicles, energy storage, microgrids, and demand response operations and market economics*.
44. Kürüm, E., Li, R., Shiffman, S., and **Yao, W.** (2016). Time-Varying Coefficient Models for Joint Modeling Binary and Continuous Outcomes in Longitudinal Data. *Statistica Sinica*, 26, 979-1000.

45. Xiang, S. and **Yao, W.** (2016). A New Information Criterion Based Bandwidth Selection Method for Nonparametric Regressions. *Journal of Statistical Computation and Simulation*, 86, 3446-3455.
46. Hu, H., Wu, Y., and **Yao, W.** (2016). Maximum Likelihood estimation of mixture of log-concave densities. *Computational Statistics and Data Analysis*, 101, 137-147.
47. Wang, S., Huang, M., Wu, X., and **Yao, W.***(2016). Mixture of Functional Linear Models and Its Application to CO₂-GDP Functional Data. *Computational Statistics and Data Analysis*, 97, 1-15.
48. Bai, X., Chen, K., and **Yao, W.***(2016). Mixture of Linear Mixed Models Using Multivariate t Distribution. *Journal of Statistical Computation and Simulation*, 86, 771-787.
49. Wu, Q. and **Yao, W.** (2016). Mixtures of quantile regressions. *Computational Statistics and Data Analysis*, 93, 162-176.
50. Yu, C., Chen, K., and **Yao, W.***(2015). Outlier Detection and Robust Mixture Modeling Using Nonconvex Penalized Likelihood. *Journal of Statistical Planning and Inference*, 164, 27-38.
51. Ma, Y. and **Yao, W.***(2015). Flexible Estimation of A Semiparametric Two-component Mixture Model With One Parametric Component. *Electronic Journal of Statistics*, 9, 444-474.
52. Chen, Y., Wang, Q., and **Yao, W.***(2015). Adaptive Estimation for Varying Coefficient Models. *Journal of Multivariate Analysis*, 137, 17-31.
53. **Yao, W.** (2015). Label switching and its solutions for frequentist mixture models. *Journal of Statistical Computation and Simulation*, 85, 1000-1012.
54. **Yao, W.***and Song, W. (2015). Mixtures of linear regression with measurement errors. *Communications in Statistics - Theory and Methods*, 44, 1602-1614.
55. Wang, S., **Yao, W.***, and Huang, M.(2014). A Note On the Identifiability of Nonparametric and Semiparametric Mixtures of GLMs. *Statistics and Probability Letters*, 93, 41-45.
56. Xiang, S., **Yao, W.***, and Wu, J. (2014). Minimum profile Hellinger Distance Estimation for a Semiparametric Mixture Model. *The Canadian Journal of Statistics*, 42, 246-267.
57. Huang, M., Li, R., Wang, H., and **Yao, W.** (2014). Estimating Mixture of Gaussian Processes by Kernel Smoothing. *Journal of Business and Economics Statistics*, 32, 259-270.
58. **Yao, W.***and Li, L. (2014). An Online Bayesian Mixture Labeling Method by Minimizing Deviance of Classification Probabilities to Reference Labels. *Journal of Statistical Computation and Simulation*, 84, 310-323.
59. **Yao, W.***and Li, L. (2014). A New Regression Model: Modal linear regression. *Scandinavian Journal of Statistics*, 41, 656-671.
60. Song, W., **Yao, W.**, and Xing Y. (2014). Robust mixture regression model fitting by laplace distribution. *Computational Statistics and Data Analysis*, 71, 128-137.
61. **Yao, W.***, Wei, Y., and Yu, C. (2014). Robust Mixture Regression Using T-Distribution. *Computational Statistics and Data Analysis*, 71, 116-127.
62. **Yao, W.** and Li, R. (2013). New local estimation procedure for nonparametric regression function of longitudinal data. *Journal of the Royal Statistical Society, Ser B*, 75, 123-138.
63. **Yao, W.** and Wang, Q. (2013). Robust variable selection through MAVE. *Computational Statistics and Data Analysis*, 63, 42-49.
64. **Yao, W.** (2013). A Note On EM Algorithm For Mixture Models. *Statistics and Probability Letters*, 83, 519-526.
65. **Yao, W.** (2013). A simple solution to Bayesian mixture labeling. *Communication in Statistics-Simulation and Computation*, 42, 800-813.
66. **Yao, W.***and Zhao, Z. (2013). Kernel density-based linear regression estimate. *Communications in Statistics-Theory and Methods*, 42, 4499-4512.

67. Lindsay, B. G. and **Yao, W.***(2012). Fisher Information Matrix: A Tool for Dimension Reduction, Projection Pursuit, Independent Component Analysis, and More. *The Canadian Journal of Statistics*, 40, 712-730.
68. **Yao, W.***, Lindsay, B. G., and Li, R. (2012). Local modal regression. *Journal of Nonparametric Statistics*, 24, 647-663. *The winner of The Journal of Nonparametric Statistics Best Paper Award 2012.*
69. Huang, M. and **Yao, W.***(2012). Mixture of regression models with varying mixing proportions: A semiparametric approach. *Journal of the American Statistical Association*, 107, 711-724.
70. **Yao, W.** (2012). Model based labeling for mixture models. *Statistics and Computing*, 22, 337-347.
71. Bai, X., **Yao, W.***, and Boyer, J. E. (2012). Robust fitting of mixture regression models. *Computational Statistics and Data Analysis*, 56, 2347-2359.
72. Zhao, Z. and **Yao, W.** (2012). Sequential design for nonparametric inference. *The Canadian Journal of Statistics*, 40, 362-377.
73. **Yao, W.** (2012). A bias corrected nonparametric regression estimator. *Statistics and Probability Letters*, 82, 274-282.
74. Wang, Q. and **Yao, W.***(2012). An adaptive estimation of MAVE. *Journal of Multivariate Analysis*, 104, 88-100.
75. **Yao, W.** (2012). Bayesian mixture labeling and clustering. *Communications in Statistics - Theory and Methods*, 41, 403-421.
76. Cao, J. and **Yao, W.***(2012). Semiparametric mixture of binomial regression with a degenerate component. *Statistica Sinica*, 22, 27-46.
77. Song, W. and **Yao, W.** (2011). A lack-of-fit test in Tobit errors-in-variables regression models. *Statistics and Probability Letters*, 81(12), 1792-1801.
78. **Yao, W.** (2010). A profile likelihood method for normal mixture with unequal variance. *Journal of Statistical Planning and Inference*, 140, 2089-2098.
79. **Yao, W.***and Lindsay, B. G. (2009). Bayesian mixture labeling by highest posterior density. *Journal of the American Statistical Association*, 104, 758-767.
80. Song, W., Wang H., and **Yao, W.** (2009). On the robust modal local polynomial regression. *International Journal of Statistical Science*, 9, 217-231.

Book Chapters

- Xiang, S., & Yao, W. (2022). Modal Regression for Skewed, Truncated, or Contaminated Data with Outliers. In *Advances and Innovations in Statistics and Data Science*, Springer Nature Switzerland.
- Xiang, S., & Yao, W. (2018). A Selective Overview of Semiparametric Mixture of Regression Models. In *New Frontiers of Biostatistics and Bioinformatics*, (pp. 41-65), Springer, Cham.
- Hoddle, M., Singh, S., Keogh, E., Cong, L., Li, Y., Yao, W., Gomez-Marco, F., Hoddle, C. D., Irvin, N., Lewis, M., and Milosavljevic, I. (2022). Using infra-red sensors and the Internet of Things to automate Argentine ant counts, CAPCA Adviser, October, 40-45.

GRANTS

Funded:

- Yao, W. PI (2022). Development of Modal Regression. Sponsor: National Science Foundation. Award Number (FAIN): DMS-2210272. Start Date: 08/01/2022. End Date: 07/31/2025. Total Award Amount \$220,000.
- Yao, W. Co-PI (2020). Grid-Ready Energy Analytics Training with Data. Sponsors: Department of Energy. PI: Nanpeng Yu. Total amount: \$194,997. Timeline: 05/15/2019-05/14/2024. Award No. DE-EE0008574. Total amount: \$265,915.

- Yao, W. Co-PI (2015). Leveraging Industry Research to Educate a Future Electric Grid Workforce. Award No: 10006272. Sponsors: Department of Energy. Timeline: 04/01/2016-02/14/2019. PI: Nanpeng Yu. Total amount: \$249,454.
- Yao, W. PI (2014). National Science Foundation. Collaborative Research: Information Matrix Analysis for Nonparametric Multivariate Problems. Collaborator: Bruce G. Lindsay, Department of Statistics, the Pennsylvania State University. The total requested funding is \$360,000 with \$120,000 requested for Yao. Timeline: 07/30/2014-07/31/2018 (including one year extension). DMS-1461677.
- Yao, W. Co-PI. Egg lutein prevents inflammation through activating AMP-activated protein kinase in hepatic mitochondria. Egg Nutrition Center (ENC), 2013-2014, PI: Dingbo Lin (Kansas State University), \$112,000.
- Yao, W. PI (2013). Simons Foundation. Project Title: Nonparametric and Semiparametric models. Award Number: 318403. Total amount: \$35,000. Awarded but declined by PI due to the conflict of another funded grant. Timeline: 09/01/2014-08/31/2019.

PRESENTATIONS

- Invited talk at the CFE-CMStatistics 2022 hosted by King's College London, 17-19 December 2022.
- Keynote talk but unable to go for "6th workshop MBC2-Models and Learning in Clustering and Classification", Catania, Italy, August 31-September 02, 2022.
- Invited talk "Semiparametric mixture of regression with unspecified error distributions" at "The 5th International Conference on Econometrics and Statistics (EcoSta 2022)", hosted by Ryukoku University, Kyoto, Japan, 4-6 June 2022.
- Invited talk but unable to go "A unified tool for the root selection and the hypothesis testing for mixture models", 2022 ICSA China Conference, Xian University of Finance and Economics, Xian, China, July 1-4, 2022.
- Invited talk "New Regression Model: Modal Regression", 2021 ICSA Applied Statistics Symposium, September 12-15, 2021.
- Invited talk "A unified tool for the root selection and the hypothesis testing for mixture models", 63rd ISI World Statistics Congress 2021 (ISI WSC 2021), July 11-16, 2021.
- Invited talk "A unified tool for the root selection and the hypothesis testing for mixture models", for the workshop "Mixtures, Hidden Markov Models and Clustering (MHC2021)", Institut de Mathematique d'Orsay, Paris, France, June 02-04, 2021.
- Invited talk "New regression model: Modal regression", 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (Virtual CMStatistics 2020), December 19-21, 2020.
- Invited talk "Statistical Data Analysis for COVID-19", 2020 Orange County Biostatistics Symposium Webinar Series, November 13, 2020.
- Invited talk "New Regression Model: Modal Regression", Department of Mathematics and Statistics, San Diego State University, San Diego, California, April 15, 2020. **Canceled.**
- Invited talk but unable to go for "ICSA 2020 Applied Statistics Symposium", Houston, Texas, May 17-20, 2020.
- Invited talk but unable to go for "The 5th International Symposium on Nonparametric Statistics (ISNPS)", Paphos, Cyprus, June 15-19, 2020.
- Invited talk but unable to go for "The 5th International Workshop on the Statistical Analysis of Multi-outcome Data (SAM 2020)", Southwest Jiaotong University, Emei Campus in Sichuan, China, July 2-3, 2020.
- Invited talk but unable to go for the conference "12th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2019)", Senate House, University of London, 14-16 December 2019.
- Special Invited talk but unable to go for the conference "12th International Conference of the ERCIM WG on Computational and Methodological Statistics", Senate House, University of London, 14-16 December 2019.
- Invited talk but unable to go for the conference "The 11th ICSA International Conference", Zhejiang University, Hangzhou, Zhejiang, China, December 20-22, 2019.
- Invited talk but unable to go for the conference "International Conference on Statistical Distri-

- butions and Applications (ICOSDA)”, Grand Rapids, MI, USA, October 10-12, 2019.
- Invited talk “Covariate Information Matrix for Dimension Reduction”, University of Kentucky, Lexington, KY, September 26-27, 2019.
 - Invited talk but unable to go for the conference “12-th Scientific Meeting Classification and Data Analysis Group”, Cassino, Italy, September 11 – 13, 2019.
 - Invited talk “New Regression Models Based on the Mode”, Donghua University, Shanghai, China, July 09, 2019.
 - Invited talk “New Regression Models Based on the Mode”, North China University of Technology, Beijing, China, July 04, 2019.
 - Special Invited talk “A unified tool for the root selection and the hypothesis testing for mixture models”, The 3rd International Conference on Econometrics and Statistics, National Chung Hsing University, Taiwan, June 25-27, 2019.
 - Invited talk but unable to go for the conference “11th International Conference of the ERCIM WG on Computational and Methodological Statistics”, University of Pisa, Italy, 14-16 December 2018.
 - Invited talk but unable to go for the workshop “Model-Based Clustering and Classification”, Catania, Italy, Sep 05-07, 2018.
 - Invited talk “Semiparametric mixture regression with unspecified error distributions”, Advances in Finite Mixture and Other Non-regular Models, Guilin, Guangxi, China, August 12-16, 2018.
 - Invited talk “Semiparametric mixture regression with unspecified error distributions”, The 2nd International Conference on Econometrics and Statistics, City University of Hong Kong, Hong Kong, June 19-21, 2018.
 - Invited talk “Semiparametric Extensions of Finite Mixture Models”, Jinan University, Guangzhou, China, June 18, 2018.
 - Invited talk “Semiparametric extension of Finite Mixture Models”, University of Windsor, Windsor, ON, Canada, February 22, 2018.
 - Invited talk “Covariate Information Matrix for Dimension Reduction”, University of California, Riverside, January 12, 2018.
 - Invited talk “Covariate information matrix for dimension reduction”, The 1st International Conference on Econometrics and Statistics, Hong Kong University of Science and Technology, Hong Kong, June 15-17, 2017.
 - Invited talk “Semiparametric Extensions of Mixture Models and Their Applications”, The 5th Workshop on Biostatistics and Bioinformatics, Atlanta, GA, USA, May 05-07, 2017.
 - Invited talk “Some Semiparametric Mixture Models and Their Applications”, University of California, Irvine, April 27, 2017.
 - Invited talk “Robust mixture modeling by mean shift parameters”, The 22nd International Conference on Computational Statistics, Oviedo, Spain, August 23-26, 2016.
 - Invited talk “Robust mixture regression using the idea of variable selection”, 2016 ICSA China Statistics Conference, Qingdao, China, June 24-25, 2016.
 - Invited talk “Robust mixture regression by EM algorithm”, 2016 ICSA Applied Statistics Symposium, Atlanta, GA, USA, June 12-15 2016.
 - Invited talk but unable to go “Robust Mixture Regression”, The 10th ICSA International Conference on Global Growth of Modern Statistics in the 21st Century, Shanghai, China, December 19-22, 2016.
 - Invited talk “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. 9th Conference of the Asian Regional Section of the IASC (IASC-ARS 2015), Singapore, December 17-19, 2015.
 - Invited talk, “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. University of California, Los Angeles, November 04, 2015.
 - Invited talk, “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. McGill University. Montréal, QC, Canada, October 23, 2015.
 - Invited talk, “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. ICSA-Canada Chapter Symposium 2015. University of Calgary, Calgary, Alberta, Canada, August 04-06, 2015.
 - “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”, 2015 IMS-China

- International Conference on Statistics and Probability, Kunming, China, July 01-04, 2015.
- Invited talk, “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. Nankai University. Tianjin, China. June 26, 2015.
 - Invited talk, “Robust Mixture Regression and Outlier Detection via Penalized Likelihood”. Jinan University, Guangzhou, China. Presented on June 23, 2015.
 - Invited talk “Semiparametric Extensions of Mixture Models”, University of California, Riverside, May 15, 2015.
 - Invited talk but unable to go. “Outlier Detection and Robust Mixture Modeling”. International Conference on Robust Statistics 2015. Indian Statistical Institute, Kolkata, India, January 12-16, 2015.
 - Invited talk “Semiparametric Mixture Models and Their Applications”, University of Calgary, Calgary, Canada, Mar 21, 2014.
 - Invited talk “Semiparametric Mixture Models”, The Ninth ICSA International Conference: Challenges of Statistical Methods for Interdisciplinary Research and Big Data, December 20-23, 2013, Hong Kong Baptist University.
 - Invited talk “Finite mixture models and some of their extensions” North Carolina State University, Raleigh, NC, Nov 22, 2013.
 - Invited talk “Finite mixture models and some of their extensions” University of Connecticut, Nov 20, 2013.
 - Invited talk “Semiparametric Mixture Models”, Capital Normal University, Beijing, China, January 08, 2013.
 - Invited talk “Semiparametric Mixture Models and Longitudinal Data Analysis”, Beijing Normal University, Beijing, China, January 04, 2013.
 - Invited talk “Semiparametric Mixture Models and Longitudinal Data Analysis”, Sungkyunkwan University, Seoul, Korea, November 23, 2012.
 - Invited talk “Mixture of Regression Models with Varying Mixing Proportions: A Semiparametric Approach”. The 2nd Institute of Mathematical Statistics Asia Pacific Rim Meeting, Tsukuba, Japan, July 1-4, 2012.
 - Model-Based Labeling for Mixture Models. Invited for the topic contributed session “Clustering and Machine Learning”, Joint Statistical Meeting, Miami Beach, FL, July 30-August 04, 2011.
 - Invited talk “Model Based Labeling for Mixture Models.” Purdue University, West Lafayette, IN, April 29, 2011.
 - Invited talk “Adaptive Mixtures of Regressions.” East Carolina University, Greenville, NC, November 05, 2010.
 - Invited talk “Mixtures of Regressions With Unknown Error Density.” Simon Fraser University, Burnaby, BC, Canada, August 06, 2010.
 - Mixtures of Regressions With Unknown Error Density. Joint Statistical Meeting, Vancouver, BC, Canada, July 31-August 05, 2010.
 - Bayesian Mixture Labeling. Twelfth Meeting of New Researchers in Statistics and Probability, Johns Hopkins, July 28-31, 2009.
 - Bayesian Mixture Labeling by Highest Posterior Density. Innovation and Inventiveness in Statistics Methodologies, Statistics Workshop at Yale University, May 14-18, 2009.
 - Invited talk “Bayesian Mixture Labeling by Highest Posterior Density.” Department of Statistics, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, November 2008.
 - Bayesian Mixture Labeling by Highest Posterior Density. Joint Statistical Meeting, Denver, CO, August 2008.
 - Local Linear Regression by Mixture. Joint Statistical Meeting, Seattle, WA, August 2006.

ACTIVITIES

- Organization committees of “2022 Orange County Biostatistics Symposium”, Abbvie Auditorium, Irvine, October 14-15, 2022.
- Organizer of an invited session for the ISBIS (International Society for Business and Industrial Statistics) CONFERENCE 2022 on “Statistics and Data Science in Business and Industry” at Naples, Italy, June 20-21, 2022.
- Organizer of an invited session “Recent advances in statistical modeling and computing for complex data” for the conference EcoSta 2022, Ryukoku University, Kyoto, Japan, 4-6 June

2022.

- Organizer of an invited session for the CMStatistics conference, King's College London, December 17-19, 2022.
- Organizer of an invited session for the Fifth ICSA-Canada Chapter Symposium, Banff, Canada, July 8-10, 2022.
- Council of Chapters representative (07/01/2021 - 6/30/2023), the Orange County/Long Beach Chapter of the ASA (OCLBASA)
- Organizer of the invited session "Recent developments for modal regression" for the CFE-CMStatistics 2021 conference hosted by King's College London, 18-20 December 2021.
- Took the course of *TASSE: The Art and Science of Student Engagement* from April 22 to June 03, 2021 and received the TASSE Certificate of Completion.
- Organizer of an invited session "Complex data analysis using mixture models and empirical likelihood" for EcoSta 2021, Hong Kong University of Science and Technology, Hong Kong, June 24-26, 2021.
- Scientific Program Committee for "The 4th International Conference on Econometrics and Statistics (EcoSta 2021)", Hong Kong University of Science and Technology, Hong Kong, June 24-26, 2021.
- Scientific Program Committee for "The 4th International Conference on Econometrics and Statistics", Yonsei University, Seoul, South Korea, July 20-22, 2020. Cancelled due to COVID-19.
- Scientific Program Committee for "The 5th international Workshop on Models and Learning for Clustering and Classification (MBC2)", Catania, Italy, September 02-04, 2020.
- Organizer of the invited session "Complex data analysis using mixture models and empirical likelihood" for "The 4th International Conference on Econometrics and Statistics", Yonsei University, Seoul, South Korea, July 20-22, 2020. Cancelled due to COVID-19.
- Deliver a short course "GridEd Course: Big Data Analytics in Electric Power Distribution Systems", EPRI Grid Analytics and Power Quality Conference and Exhibition 2018, Phoenix, Arizona, June 07, 2018.
- Organizer of an invited session for "The 3rd International Conference on Econometrics and Statistics", National Chung Hsing University, Taichung, Taiwan June 25-27, 2019.
- Organizer of an invited session for the workshop "Model-Based Clustering and Classification", Catania, Italy, Sep 05-07, 2018.
- Organizer of an invited session for for the conference "Advances in Finite Mixture and Other Non-regular Models", Guilin, Guangxi, China, August 12-16, 2018.
- Serving on NSF Statistics Panel B: Bayesian, High Dimensional and Statistical Learning, Feb 05-07, 2018.
- Organizer of an invited session for "The 3rd ICSA -Canada Chapter Symposium, Frontiers of Big Data and Statistical Science", Vancouver, Canada, August 18-20, 2017.
- President of Kansas-Western Missouri Chapter of the American Statistical Association (04/2013-04/2014)
- Vice President of Kansas-Western Missouri Chapter of the American Statistical Association (04/2012-04/2013)
- Co-organizer of Symposium on "Innovations in Design, Analysis, and Dissemination: Frontiers in Biostatistical Methods", Kansas city, MO, April 2013
- Organizer of the Topic-Contributed session "Statistical Inference for Mixture Models", Joint Statistical Meeting, Miami Beach, FL, August 2011
- Organizer of the Topic-Contributed session "Recent Development in Mixture Models and Applications", Joint Statistical Meeting, Vancouver, BC, Canada, August 2010
- Faculty Coordinators of Conference on Applied Statistics in Agriculture 2008-2010
- Chair of Mixtures Models and Their Applications Session. Joint Statistical Meeting, Salty Lake city, UT, August 2007
- Life Member of Institute of Mathematical Statistics

STUDENTS
SUPERVISED

Ph.D. dissertation advisees

- Tao Wang (2022), Economics, University of California, Riverside, co-advisor: Aman Ullah
- Mi Zhou (2021), Statistics, University of California, Riverside

- Suyeon Kang (2022), Statistics, University of California, Riverside
- Lin Cong (2022), Statistics, University of California, Riverside
- Jiacheng Xue (2022), Statistics, University of California, Riverside
- Yangmei Zhou (2019), Statistics, University of California, Riverside
- Chen Lin (2019), Statistics, University of California, Riverside, co-advisor: Shizhong Xu
- Edward Schuberg (2019), Statistics, University of California, Riverside, co-advisor: Shujie Ma
- Supawadee Wichitchan (2017), Statistics, University of California, Riverside
- Xiaoyang Zhou (2017), Statistics, University of California, Riverside
- Ashley Cacho (2016), Statistics, University of California, Riverside, co-advisor: Xiping Cui
- Xiuqin Bai (2014), Statistics, Kansas State University, co-advisor: Kun Chen
- Yixin Chen (2014), Statistics, Kansas State University
- Chun Yu (2014), Statistics, Kansas State University, co-advisor: Kun Chen
- Sijia Xiang (2014), Statistics, Kansas State University

Master report advisees

- Meng Li (2014), Statistics, Kansas State University
- Li Yang (2014), Statistics, Kansas State University
- Xue Bai (2012), Statistics, Kansas State University
- Wei Yan (2012), Statistics, Kansas State University
- Sijia Xiang (2012), Statistics, Kansas State University
- Xiuqin Bai (2010), Statistics, Kansas State University

Post-doctoral trainees

- Lin Xu (2015-2018), Associate Professor, School of Mathematics and Statistics, Zhejiang University of Finance and Economics
- Zhen Zeng (2022-), Assistant Professor, Department of Applied Mathematics, Nanjing University of Finance and Economics, Nanjing, China

SERVICES

- Member of the UC systemwide Committee on Research Policy (UCORP) (2021-)
- Member of Executive Council (2021-)
- Chair of the Committee on Research, 09/2021-08/2024
- Admission committee for Master of Science in Business Analytics, (02/2021)
- Faculty Steering Committee for Master of Science in Business Analytics (MSBA), (02/2021-07/2021)
- Judge for the 2021 UC system-wide CAMP Symposium, February 12-16, 2021.
- Faculty mentor for California Alliance for Minority Participation (CAMP) Scholars Program in Winter 2021
- Faculty Mentor for three incoming transfer students for CNAS STEM 2020 Summer Bridge to Research Program, 08/2020-09/2020.
- Panelist for the Fall 2021 Junior Faculty Workshop Series, 10/08/2021
- Panelist for the Fall 2020 Junior Faculty Workshop Series, 10/16/2020
- Graduate Council Secretary 09/2020-08/2021
- Judge for 2019 Riverside County Science and Engineering Fair
- Courses & Programs Subcommittee 09/2018 - 08/2021
- Environmental Sciences graduate program review subcommittee, Spring 2020
- Biochemistry & Molecular Biology graduate program review subcommittee, Spring 2019
- A member of Graduate Council 09/2018 - 08/2021
- Graduate advisor, 07/2015-06/2021
- Graduate Financial Aid & Recruitment 2016-
- Summit program, 05/09/2017, 11/15/2018
- Qualifying Exams committee, 2016-
- Qualifying Exam Appeals Committee, 2016-
- Highlander Day, 04/08/2017, 04/06/2019
- Serve on the statistics panel discussion, 05/19/2016.
- Careers day (02/2016, 2017, 2018, 2019)

- Develop and teach a short course for the Graduate Quantitative Methods Training Program (GradQuant) in Spring 2015.
- Judge for 2015 Riverside Unified School District's Science and Engineering Fair
- Discovery Day 02/28/2015, 2017
- Search committee chair (09/2014-05/2015)

JOURNAL REFEREE

- Advances in Data Analysis and Classification (2013(2),2018,2019(3),2020, 2022)
- Advances and Applications in Statistics (2014)
- Australian & New Zealand Journal of Statistics (2015)
- The American Statistician (2011, 2012, 2015(2),2018(2))
- Annals of Applied Statistics (2009, 2014(2))
- Annals of Statistics (2011,2015(2))
- Annals of The Institute of Statistical Mathematics (2017,2019)
- Bernoulli (2014,2015)
- Biometrical Journal (2019(2))
- Biostatistics (2015)
- Canadian Journal of Statistics (2012, 2014, 2017,2018, 2019, 2020)
- Colombian Journal of Statistics (2011, 2012(2))
- Communications in Statistics-Theory and Methods (2012(3),2015(5),2016(2))
- Communications in Statistics-Simulation and Computation (2015,2016)
- Computational Statistics (2014, 2015(2),2018)
- Computational Statistics and Data Analysis (2012, 2014(2),2017, 2018)
- Electronic Journal of Statistics (2012, 2013(3), 2020(2))
- Geophysical Research Letters (2010)
- Hacettepe Journal of Mathematics and Statistics (2013(2))
- ICSA Springer book for the applied statistics symposium at Atlanta, June 2016 (2017(2))
- Journal of Applied Statistics (2015(2))
- Journal of Business & Economic Statistics (2013, 2017,2018,2021)
- Journal of Economics (2021(3),2022)
- Journal of Computational and Graphical Statistics (2013 (2), 2014, 2015(2), 2017, 2018)
- Journal of Multivariate Analysis (2016(2), 2017(2))
- Journal of Nonparametric Statistics (2008, 2009(2), 2012)
- Journal of Quantitative Economics (2018)
- Journal of Statistical Computation and Simulation (2014, 2015(3), 2017(2))
- Journal of Statistical Planning and Inference (2009, 2012(2), 2014, 2018(2), 2019)
- Journal of the American Statistical Association (2012(2), 2013, 2014(4),2015(2),2016(4), 2017, 2018, 2020, 2021, 2022)
- Journal of the Royal Statistical Society, Ser B. (2012, 2013(3), 2014(2), 2017, 2018(2))
- Journal of the Korean Statistical Society (2014(2))
- Multivariate Behavioral Research (2017)
- NSF reviewer (2016,2018)
- Sankhya A (2018, 2020(3))
- Science China Mathematics (2018)
- Stat (2014,2015,2018)
- Statistics and Computing (2013(2),2017(3))
- Statistics in Medicine (2017)
- Statistical Papers (2013(2), 2014)
- Statistical Science (2019,2021)
- Statistica Sinica (2010, 2012,2015,2018)
- Statistics and Probability Letters (2012, 2014(2))
- Test (2015(3), 2017, 2020, 2021)

THESE COMMITTEES SERVED

- Xianghao Kong, Department of Electrical and Computer Engineering, University of California, Riverside (12/2021-)
- Jiacheng Xue, Department of Statistics, University of California, Riverside (04/2019-09/2022)

- Tao Wang, Department of Economics, University of California, Riverside (05/2019-07/2022; co-chair with Aman Ullah)
- Lin Cong, Department of Statistics, University of California, Riverside (04/2021-07/2022)
- Suyeon Kang, Department of Statistics, University of California, Riverside (08/2020-09/2022)
- Farzana Kabir, Department of Electrical and Computer Engineering, University of California, Riverside (12/2021-03/2022)
- Isaac Quintanilla Salinas, Department of Statistics, University of California, Riverside (04/2020-08/2022)
- Debaleena Sain, Department of Statistics, University of California, Riverside (06/2021-08/2021)
- Osten Anderson, Master, Department of Electrical and Computer Engineering, University of California, Riverside (03/2021-05/2021)
- Dylan Friel, Department of Statistics, University of California, Riverside (05/2021-05/2022)
- Mi Zhou, Department of Statistics, University of California, Riverside (09/2018-05/2021)
- Wenyu Wang, Department of Electrical and Computer Engineering, University of California, Riverside (08/2016-04/2021)
- Jie Shi, Department of Electrical and Computer Engineering, University of California, Riverside (08/2016-02/2021)
- Michael Brannan, Department of Statistics, University of California, Riverside (01/2020-01/2021)
- Yuanqi Gao, Department of Electrical and Computer Engineering, University of California, Riverside (09/2016-09/2020)
- Linli Tang, Department of Statistics, University of California, Riverside (09/2019-)
- Ruihan Lu, Department of Statistics, University of California, Riverside (03/2019-)
- Huiling Liu, Department of Statistics, University of California, Riverside (06/2018-06/2021)
- Luke Klein, Department of Statistics, University of California, Riverside (11/2017-)
- Luyao Peng, Department of Statistics, University of California, Riverside (10/2017-06/2019)
- Debmalya Nandy, Department of Statistics, The Pennsylvania State University (12/16-03/2019)
- Hua Peng, Department of Statistics, University of California, Riverside (10/2017-12/2017)
- Bala Natarajan, Statistics, Kansas State University (12/2016-12/2017)
- Marcus Cappiello, Department of Psychology, University of California, Riverside (08/16-09/2019)
- Chenwei Tian, Department of Statistics, University of California, Riverside (2018)
- Hao Hu, Department of Statistics, North Carolina State University (2016)
- Mohammad Sahtout, Statistics, Kansas State University (2014)
- Girly Ramirez, Statistics, Kansas State University (2013)
- Lin Xie, Statistics, Kansas State University (2011)

ORAL EXAM
COMMITTEES
SERVED

- Anh Tran (08/2022-09/2022), Department of Economics, University of California, Riverside
- Li Yang (09/2022-), Department of Psychology, University of California, Riverside
- Yifei Ding (08/2022-09/2022), Department of Economics, University of California, Riverside
- Benjamin Ellis(09/2022-), Department of Statistics, University of California, Riverside
- Xianghao Kong, Department of Electrical and Computer Engineering, University of California, Riverside (11/2021-12/2021)
- Sichen Chen, Department of Statistics, University of California, Riverside (07/2021-09/2021)
- Yong Ju Lee, Department of Economics, University of California, Riverside (09/2021-09/2021)
- Rebecca Kurtz-Garcia, Department of Statistics, University of California, Riverside (06/2021-08/2021)
- Lin Cong, Department of Statistics, University of California, Riverside (04/2021-06/2021)
- Yuanbin Cheng, Department of Electrical and Computer Engineering, University of California, Riverside (05/2021)
- Dylan Friel, Department of Statistics, University of California, Riverside (05/2021-05/2021)
- Bradley Lubich, Department of Statistics, University of California, Riverside (10/2020-01/2021)
- Suyeon Kang, Department of Statistics, University of California, Riverside (08/2020-09/2020)
- Gabrielle Tsai, Department of Mathematics, University of California, Riverside (08/2020-09/2020)
- Tao Wang, Department of Economics, University of California, Riverside (05/2019-03/2020; co-chair with Aman Ullah)
- Chulan Zeng, Department of Mathematics, University of California, Riverside (03/2020-03/2020)

- Isaac Quintanilla Salinas, Department of Statistics, University of California, Riverside (01/2020-04/2020)
- Michael Brannan, Department of Statistics, University of California, Riverside (01/2020-01/2020)
- Yinglun Li, Department of Electrical and Computer Engineering, University of California, Riverside (01/2020-03/2020)
- Linli Tang, Department of Statistics, University of California, Riverside (07/2019-09/2019)
- Jiacheng Xue, Department of Statistics, University of California, Riverside (04/2019-09/2019)
- Amir Nodehi Sabet, Department of Computer Science and Engineering, University of California, Riverside (05/2019-06/2019)
- Ruihan Lu, Department of Statistics, University of California, Riverside (02/2019-03/2019)
- Deepak Bastola, Department of Statistics, University of California, Riverside (07/2018-09/2018)
- Mi Zhou, Department of Statistics, University of California, Riverside (07/2018-09/2018)
- Jinhui Yang, Department of Statistics, University of California, Riverside (06/2018-09/2018)
- Huiling Liu, Department of Statistics, University of California, Riverside (04/2018-06/2018)
- Luke Klein, Department of Statistics, University of California, Riverside (10/2017-11/2017)
- Luyao Peng, Department of Statistics, University of California, Riverside (08/2017-09/2017)
- Feng Xiong, Department of Economics, University of California, Riverside (08/2017-12/2017)
- Tiantian Ye, Department of Genetics, Genomics and Bioinformatics, University of California, Riverside (02/2017)
- Debmalya Nandy, Department of Statistics, The Pennsylvania State University (08/2015-12/2016)
- Bala Natarajan, Statistics, Kansas State University (12/2016)
- Brandon Foggo, Department of Electrical and Computer Engineering, University of California, Riverside (11/2016-12/2016)
- Yuanqi Gao, Department of Electrical and Computer Engineering, University of California, Riverside (08/2016-)
- Wenyu Wang, Department of Electrical and Computer Engineering, University of California, Riverside (06/2016-08/2016)
- Marcus Cappiello, Department of Psychology, University of California, Riverside (11/2015-08/2016)
- Jie Shi, Department of Electrical and Computer Engineering, University of California, Riverside (04/2016-08/2016)
- Meiyue Wang, Department of Plant Biology, University of California, Riverside (05/16-06/16)
- He Wang, Department of Economics, University of California, Riverside (10/2015-11/2015)
- Shangjie Xu, Department of Statistics, University of California, Riverside (05/2015-09/2015)
- Yijia Wang, Department of Statistics, University of California, Riverside (10/2014)

RESEARCH MENTOR

- Xun Shan, Department of Mathematics, University of California, San Diego
- Alexandria Richardson, Department of Statistics, University of California, Riverside, California Alliance for Minority Participation (CAMP) Scholars Program in Spring 2021
- John Pleines, Department of Statistics, University of California, Riverside, Gradedge/jumpstart program, 07/2021-09/2021
- Alexandria Richardson, Department of Statistics, University of California, Riverside, California Alliance for Minority Participation (CAMP) Scholars Program in Winter 2021
- Julia Lee, Department of Statistics, University of California, Riverside, Gradedge/jumpstart program, 06/2019-08/2019.
- Alexandria Richardson, Department of Statistics, University of California, Riverside, Summer Research In Science and Engineering Program (RISE)
- Jesus Gonzalez Camba, Microbiology major, University of California, Riverside, Summer Research In Science and Engineering Program (RISE)
- Nicole Shad, Biology major, University of California, Riverside, Summer Research In Science and Engineering Program (RISE), 06/2020-08/2020.