Hongjian Shi – Curriculum Vitae

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Contact:

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Employment:

2021–	Technical University of Munich	Postdoc

Education:

2016–2021	University of Washington	Ph.D. in Statistics
2014–2016	Indiana University Bloomington	B.S. in Statistics
2010–2014	Peking University	B.S. in Mathematics

Publications:

9 Existence of direct density ratio estimators (with Erika Banzato, Mathias Drton, Kian Saraf-Poor), working paper.

8 On universal inference in Gaussian mixture models (with Mathias Drton), *ArXiv e-prints*, (2024), `arXiv:2407.19361`.

7 Distribution-free tests of multivariate independence based on center-outward quadrant, Spearman, Kendall, and van der Waerden statistics (with Mathias Drton, Marc Hallin, Fang Han). *Bernoulli*, **30**, no. 4, (2024): in press.

6 On Azadkia–Chatterjee's conditional dependence coefficient (with Mathias Drton, Fang Han). *Bernoulli*, **30**, no. 2, (2024): 851–877.

5 A discussion of "A note on universal inference" by Tse and Davison (with Mathias Drton, David Strieder). *Stat*, **12**, no. 1, (2023): e572.

4 On the power of Chatterjee's rank correlation (with Mathias Drton, Fang Han). *Biometrika*, **109**, no. 2, (2022): 317–333.

3 On universally consistent and fully distribution-free rank tests of vector independence (with Marc Hallin, Mathias Drton, Fang Han). *The Annals of Statistics*, **50**, no. 4, (2022): 1933–1959.

2 Distribution-free consistent independence tests via center-outward ranks and signs (with Mathias Drton, Fang Han). *Journal of the American Statistical Association*, **117**, no. 537, (2022): 395–410.

1 High dimensional independence testing with maxima of rank correlations (with Mathias Drton, Fang Han). *The Annals of Statistics*, **48**, no. 6, (2020): 3206–3227.

Talks:

- "Distribution-free tests of multivariate independence based on center-outward signs and ranks", Measure transportation as a tool for statistical inference [Special Session], 26th International Conference on Computational Statistics (COMPSTAT 2024), Gießen, Germany, 27–30 August 2024

- "Distribution-free tests of multivariate independence based on center-outward signs and ranks", Ranked-Based Measures and Tests of Dependence, Bernoulli-IMS 11th World Congress in Probability and Statistics 2024, Bochum, Germany, 12–16 August 2024
- "High-dimensional consistent independence testing with maxima of rank correlations", Statistical Inference for High-Dimensional Data, 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, China, 17–19 July 2024
- "On universal inference in Gaussian mixture models", Oberwolfach Workshop 2419b: Game-theoretic Statistical Inference: Optional Sampling, Universal Inference, and Multiple Testing Based on E-values, Oberwolfach, Germany, 5–10 May 2024
- "On universal inference in normal mixture models", 2023 IMS International Conference on Statistics and Data Science (ICSDS), Lisbon, Portugal, 18–21 December 2023
- "On universally consistent and fully distribution-free rank tests of vector independence", Statistical Learning and Inference Using Kernel, Distance, and Rank [Invited Session], 2023 ICSA Applied Statistics Symposium, Ann Arbor, Michigan, United States, 11–14 June 2023
- "On universally consistent and fully distribution-free rank tests of vector independence", 16th German Probability and Statistics Days (GPSD) 2023, Essen, Germany, 7–10 March 2023
- "On universally consistent and fully distribution-free rank tests of vector independence", 2nd AS-CAI (Active and batch Segmentation, Clustering, and seriation: toward unified foundations in AI) Workshop, Garching b. München, Germany, 28 Feb – 2 March 2023
- "On universally consistent and fully distribution-free rank tests of vector independence", Statistical Optimal Transport [Invited Session], 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022), London, United Kingdom, 17–19 December 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", 2022 IMS International Conference on Statistics and Data Science (ICSDS), Florence, Italy, 13–16 December 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", ETH-UCPH-TUM Workshop on Graphical Models, Burghausen, Germany, 10–14 October 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", YES workshop XI: Optimal Transport, Statistics, Machine Learning and Moving in Between, Eindhoven, Netherlands, 5–9 September 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", Recent Advances in Rank-Based Inference [Invited Session], 2022 Joint Statistical Meetings (JSM), Washington DC, United States, 6–11 August 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", Invited Talk, Ruhr University Bochum, Bochum, Germany, 26 July 2022
- "Distribution-free consistent tests of independence via center-outward multivariate ranks", Recent Advances in Nonparametric and High-Dimensional Hypothesis Testing [Invited Session], International Chinese Statistical Association (ICSA) China Conference, Xi'an, China (Hybrid), 1–4 July 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", Recent Advances in Rank-Based Inference [Topic Contributed Session], 2022 IMS Annual Meeting, London, United Kingdom, 27–30 June 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", Multivariate Analysis of Complex Data (MACD) Workshop, Brussels, Belgium, 23–24 May 2022

- "Center-outward sign- and rank-based quadrant, Spearman, and Kendall tests for multivariate independence", International Workshop on Optimal Transport and Structured Data Modeling (OT-SDM), Vancouver, British Columbia, Canada (Virtually), 28 February 2022
- "On universally consistent and fully distribution-free rank tests of vector independence", Seminar on Statistics and Data Science, Technical University of Munich, Garching bei München, Germany, 22 September 2021

Teaching:

2021	University of Washington	STAT 390: Statistical Methods in Engineering and Science (TA)
2021	University of Washington	STAT 498: Introduction to Stochastic Processes II (TA)
2020	University of Washington	STAT 491: Introduction to Stochastic Processes (TA)
2020	University of Washington	STAT 390: Statistical Methods in Engineering and Science (TA)
2020	University of Washington	STAT 435: Introduction to Statistical Machine Learning (TA)
2019	University of Washington	STAT 570: Advanced Regression Methods for Independent Data (TA)
2019	University of Washington	STAT 311: Elements of Statistical Methods (TA)
2019	University of Washington	STAT 571: Advanced Regression Methods for Dependent Data (TA)
2018	University of Washington	STAT 491: Introduction to Stochastic Processes (TA)
2018	University of Washington	STAT 390: Statistical Methods in Engineering and Science (TA)
2017	University of Washington	STAT 390: Statistical Methods in Engineering and Science (TA)
2016	University of Washington	STAT 390: Statistical Methods in Engineering and Science (TA)

Professional Service:

Journal Referee: The Annals of Statistics (AOS), Biometrika, Journal of the American Statistical Association (JASA), Journal of the Royal Statistical Society: Series B (JRSSB), Bernoulli, The Annals of Applied Probability (AAP), Electronic Journal of Statistics (EJS), Journal of Machine Learning Research (JMLR), Journal of Multivariate Analysis (JMVA), Statistica Sinica (SS), Statistical Science (STS), Scandinavian Journal of Statistics (SJS), TEST (SEIO), Latin American Journal of Probability and Mathematical Statistics (ALEA), Computational Statistics and Data Analysis (CSDA), Computational Statistics (COST), Biometrical Journal (BIMJ)