ZIYI SONG

ziyis9@uci.edu ◇ ziyi-song-stats.github.io ◇

Education & Training

University of California, Irvine, United States **2021 – present**
Ph.D. Candidate
Department of Statistics
Co-advisors: Prof. Michele Guindani (UCLA) & Prof. Weining Shen (UCI)

University of Milano-Bicocca, Milano, Italy **Jan. – Apr. 2025**
Visiting Ph.D. Student in Statistics
Department of Economics, Management and Statistics (Statistics Division)
Hosts & Supervisors: Prof. Federico Camerlenghi, Prof. Mario Beraha

University of Michigan, Ann Arbor, United States **2019 – 2021**
M.Sc. in Statistics

The Chinese University of Hong Kong, Shenzhen, China **2016 – 2020**
B.Sc. in Statistical Science, Honours First Class

Research Interests

Bayesian methods, Bayesian nonparametrics, Random partition models, Random measures, Point processes, Repulsive mixture models, Causal inference, Spatio-temporal and functional data analysis, Statistical imaging, Single-view and multi-view clustering, Multi-modal integration, Neuroscience, Behavioral science, Biomedical applications.

Publications

(# indicates corresponding author)

Song, Ziyi#, W. Shen, M. Vannucci, A. Baldizon, P. M. Cinciripini, F. Versace, and M. Guindani#. Clustering computer mouse tracking data with informed hierarchical shrinkage partition priors. *Biometrics*, 80(4): ujae124, 2024.

Song, Ziyi, F. Camerlenghi, W. Shen, M. Guindani, and M. Beraha. Repulsive mixture model with projection Determinantal point process. *Submitted to Journal of the American Statistical Association T&M.* 2025. arXiv:2510.08838v1

Song, Ziyi, et al. Discovering hidden treatment effect heterogeneity in null clinical trials: a causal Bayesian nonparametric approach. *In preparation.* 2025+.

Song, Ziyi, et al. Multi-view functional clustering for the joint analysis of EEG data and computer mouse tracking data. *In preparation.* 2025+.

Awards & Honors

Institute of Mathematical Statistics Hannan Graduate Student Travel Award **2025**

National Science Foundation Travel Award ICSA Applied Statistics Symposium **2025**

14th International Conference on Bayesian Nonparametics (BNP14) Best Poster Award **2025**

14th International Conference on Bayesian Nonparametics (BNP14) Travel Award **2025**

Academic Performance Scholarship **2018**

Undergraduate Research Award **2018, 2019**

Dean's List **2018, 2019**

Master's List **2018, 2019**

Academic Presentations

Departmental Seminars

1. Statistics seminar, University of Milan Bicocca, Italy. 2025

Invited and Contributed talks

4. Invited talk – 34th ICSA Applied Statistics Symposium. Storrs, CT. 2025
3. Contributed talk – 3rd Bayesian Nonparametrics Networking Workshop. Singapore. 2024
2. Contributed talk – Orange County Biostatistics Symposium. Irvine, CA. 2023
1. Contributed talk – WNAR International Biometric Society. Anchorage, AK. 2023

Poster Presentations

2. Contributed poster – 14th International Conference on Bayesian Nonparametrics. Los Angeles, CA. 2025
1. Contributed poster – Bayesian Young Statisticians Meeting. Venice, Italy. 2024

Teaching Experience

Teaching assistant — **University of California, Irvine**

- STATS 295: Causal Machine Learning — Fall 2024
- STATS 210: Statistics Methods I — Fall 2024, Fall 2025
- STATS 211P: Statistics Methods II — Spring 2024
- STATS 200A: Intermediate Probability and Statistical Theory — Fall 2025
- STATS 120A/281A: Introduction to Probability and Statistics I — Fall 2023
- STATS 68: Statistical Computing and Exploratory Data Analysis — Spring 2023
- STATS 67: Introduction to Statistics for Computer Science — Winter 2022, Winter 2023, Spring 2025
- STATS 7: Basic Statistics — Spring 2022, Winter 2024

Grader — **University of California, Irvine**

- STATS 67: Introduction to Statistics for Computer Science — Fall 2021, Fall 2022

Referee for Professional Journals

Journal of the American Statistical Association
Journal of Nonparametric Statistics
IEEE Transactions on Signal Processing

Industry Experience

Genentech *Research data science intern* — **Jun. – Sep. 2023**
Supervisor: Dr. Xiao Li (now Senior Principal Data Scientist at Roche) — *South San Francisco, CA*

- Developed a method to identify cell types based on spatially resolved omics profiling data via a Bayesian nonparametric approach that also considers spatial neighborhood dependencies.
- Supported efforts to develop novel biomarkers by providing improved cell type identification and characterization using the proposed approach.

Professional Memberships

American Statistical Association
Institute of Mathematical Statistics
International Society for Bayesian Analysis
International Biometric Society

Languages

Computer R (advanced), Python, Rcpp, LaTeX
Human Mandarin (native), English (fully proficient), Italian (basic)

Reference Writers

Prof. Michele Guindani
mguindani@g.ucla.edu
Department of Biostatistics
University of California, Los Angeles

Prof. Weining Shen
weinings@uci.edu
Department of Statistics
University of California, Irvine

Prof. Federico Camerlenghi
federico.camerlenghi@unimib.it
Department of Economics, Management and Statistics
University of Milano-Bicocca, Milano, Italy

Prof. Mario Beraha
mario.beraha@unimib.it
Department of Economics, Management and Statistics
University of Milano-Bicocca, Milano, Italy