# 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

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

## Publications

*(# indicates corresponding author)*

**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+.

**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**[#], 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.

## 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 – 3nd 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