Yu Zheng

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LinkedIn | Github

Education

University of Florida Gainesville, FL
Ph.D. in Statistics (In process) *Aug. 2021 - May. 2025*
- GPA: 3.95 / 4

University of Science and Technology of China Hefei, CN
Bachelor of Science, Mathematics and Applied Mathematics *Aug. 2016 - May. 2020*
Minor in Business Administration
Admitted to School of the Gifted Young

Skills and standard tests

Programming Languages: R (Advanced), Python (Advanced), C/C++ (Moderate)
Skills and Tools: Stan, Git, LaTeX, TensorFlow, Pytorch, JAX
Languages: Mandarin Chinese (Native), Wu Chinese (Native), English (Advanced), Spanish (Moderate)
GRE: V157 + Q170 + W4.0; **GRE Subject Mathematics**: 970 (99th Percentile)

Preprint publications

Yu Zheng, and Leo L. Duan. (2023). *Blocked Gibbs Sampler with Anti-correlation Gaussian Data Augmentation, with Applications to L1-ball-type Models.* Submitted to Journal of Machine Learning Research. arXiv.

Contributed Presentations

2023 Joint Statistical Meetings — *Toronto, Canada* Aug. 2023
- Talk title: Blocked Gibbs Sampling for L1-ball Priors: an Efficient Computation for Structuredly Sparse Models.

Academic Projects

Bayesian High-dimensional Multi-modal Density Estimation Aug. 2023 - Present
- Devised an innovative Bayesian model to circumvent the curse of dimensionality for high-dimensional clustering.
- Developed an efficient sampling scheme for multi-modal posteriors, implemented using JAX.

Anti-correlation Gaussian Data Augmentation Jan. 2023 - Jul. 2023
- Proposed an innovative data augmentation algorithm in the L1-ball-type model, achieving an average of **30-fold** increase in the effective sample size per computing time.
- Substantially reduced the running time for applying the soft-thresholded Gaussian process to functional MRI data **from 68 hours to 4.5 hours**.

Neural Network for Alzheimer's Disease Diagnosis May. 2022 - Dec. 2022
- Proposed a novel neural network model that incorporates Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Variational Autoencoders (VAEs), and Bayesian modeling.
- Modeled and generated functional MRIs using Pytorch to filter out noises, enhancing the diagnostic capabilities for Alzheimer's disease.

Teaching Experience

Instructor at the University of Florida Jan. 2023 - Apr. 2023
- STA 3024: Introduction to Statistics II
- Held lectures that help 100+ students make progress in utilizing statistical tools (such as ANOVA, nonparametric methods, contingency tables, and linear and logistic regression) to analyze and quantify real-world problems.

Teaching Assistant at the University of Florida Aug. 2021 - Dec. 2022
- STA 6275: Statistical Computing I: Optimization; STA 6166: Statistical Methods in Research I; STA 3032: Engineer Statistics.

Teaching Assistant at the University of Science and Technology of China Aug. 2018 - May. 2020
- Multivariate Calculus; Mathematical Statistics; Mathematical Analysis B1; Mathematical Analysis B2.

Awards

Mendenhall Award for the best first-year student Gainesville, FL
University of Florida *Jan. 2023*