# ZIJIAN ZENG

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## EDUCATION

**Rice University, Houston TX** *Aug. 2018 - May 2023 (Expected)*
*Ph.D in Statistics* and *Master in Statistics*
Co-Advisors: Meng Li, Ph.D., and Marina Vannucci, Ph.D.
GPA: 4.0/4.0

**Duke University, Durham NC** *Aug. 2016 - May 2018*
*Master in Econometrics and Quantitative Economics*
GPA: 3.7/4.0

**Jiangxi University of Finance and Economics, Nanchang China** *Aug. 2012 - May 2016*
*Bachelor in Mathematical Economics, honors program*
GPA: 3.78 (87.84/100)

## RESEARCH INTERESTS

**Theory and Methods:** Bayesian Modeling, Variable Selection, Nonparametric Bayes, Quantile Regression, Functional Data Analysis, Machine Learning, Deep Learning
**Application**: Economic Data, Image Data, Network Data

## HONORS AND AWARDS

- James R. Thompson Student Awards (Rice News), *Rice (2023)*
- STAT Ph.D Student Travel Award, *Rice (2022)*
- Runner-up Award (Rice News), *Statistical Methods in Imaging (2022)*
  Conference on Statistical Methods in Imaging,
- Best Paper Award (Rice News), *American Statistical Association (2022)*
  Mental Health Statistics Section of the American Statistical Association,
- M.A. Merit Scholar Award, *Duke (2017)*
- Scholar Award of Masters in Economics, *Duke (2016)*
- Outstanding Student - Honors Program with Scholarship. *JUFE (2014 & 2015)*

## PUBLICATIONS

**Peer reviewed**

- **Zeng, Z.** and Li, M. (2021). Bayesian Median Autoregression for Robust Time Series Forecasting. *International Journal of Forecasting*, 37(2), 1000-1010.
- **Zeng, Z.**, Li, M. and Vannucci, M. (2022+). Bayesian Image-on-Scalar Regression with a Spatial Global-Local Spike-and-Slab Prior. *Bayesian Anaysis*, in press.
  * Winner, 2022 ASA/MHSS student paper competition
  * Runner up, 2022 SMI student paper competition
- Ryan, C.T., **Zeng, Z.**, Chatterjee, S., Wall, M.J., Moon, M.R., Coselli, J.S., Rosengart T.K., Li, M., and Ghanta, R.K., (2022). Machine Learning for Dynamic and Early Prediction of Acute Kidney Injury after Cardiac Surgery. *The Journal of Thoracic and Cardiovascular Surgery*, in press.

**Conference abstracts/proceedings**

- Ryan, C., **Zeng, Z.**, Chatterjee, S., Wall, M., Rosengart, T., Li, M. and Ghanta, R., (2022). Machine Learning for Real-Time and Early Prediction of Acute Kidney Injury after Cardiac Surgery. *102nd AATS Annual Meeting Conference Abstract (Peer Reviewed)* [Abstract]
- **Zeng, Z.**, Li, M. and Vannucci, M. (2022). Bayesian Image-on-Scalar Regression with a Spatial Global-Local Spike-and-Slab Prior. *2022 Statistical Methods in Imaging (invited)* [Abstract], *2022 Joint Statistical Meetings (invited)* [Abstract], *The 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (invited)* [Abstract]

## WORKING EXPERIENCES

**PROS intern** *Jun. 2020 - Aug. 2020, Jun. 2022 - Aug. 2022*
- Developed Bayesian hierarchical models for price and demand estimation.
- Designed Constraints for Bayesian dynamic linear model for ticket pricing.
- Implemented AutoML algorithms for ticket price prediction.

**Research consultant at Social Science Research Institute at Duke** *Mar. 2018 - May 2018*
- Offered advice to students and researchers at Duke for planning and conducting research projects.

## TEACHING EXPERIENCES

**Graduate Teaching Assistant**, Rice University

- **STAT 541** *Multivariate Analysis*, *Spring 2023*
- **STAT 615** *Regression and Linear Models*, *Fall 2022*
- **STAT 530** *Causal Analysis*, *Spring 2022*
- **STAT 450** *Senior Capstone Project*, *Fall 2021*
- **STAT 519** *Statistical Inference*, *Spring 2021*
- **STAT 315** *Fall 2018, 2019 and Spring 2019, 2020*
  *Probability and Statistics for Data Science*
  * Led a team of 8 labbies to design and offer Lab section using R;
  * Established the Lab section of this new course in the year 2018;

**Mentor**, Rice University

- Hongying Li, *Oct 2022 - Current*
  *Scalable sampling methods for Spike-and-Slab prior.*
- Emma Dunn, Dileka Gunawardana, Ranie Lin, Eric Maeng, Dylan Nguyen, April Yang, Peter Zhu. *Fall 2021*
  *Senior Capstone Projects*

## REVIEW EXPERIENCE

**International Conference on Artificial Intelligence and Statistics**: 4
(AISTATS 2023)

**Bayesian Analysis**: 1

## SOFTWARE PACKAGES

- BayesMAR [Code (R)]
- Bayesian Image on Scalar Regression [Code (Python)]
- Bayesian Covariates-Dependent Precision Regression [Under development (R & Rcpp) ]