

# Runjing (Bryan) Liu

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## Education

**UC Berkeley**; Berkeley, CA

*August 2016 to August 2021*

PhD, Statistics

Advisor: Jon McAuliffe

**Duke University**; Durham, NC

*August 2012 to May 2016*

Major: Mathematics (BS), Minor: Biology

GPA: 3.99/4.00

*Summa cum laude*

*Graduation with high distinction*

## Awards and Fellowships:

NSF graduate research fellow 2017

Julia Dale Prize in mathematics 2016

Barry Goldwater Scholarship Honorable Mention 2015

Phi Beta Kappa Academic Honor Society

## Publications and pre-prints:

**Liu R.**, McAuliffe J. D., Regier J. "Variational Inference for Deblending Crowded Starfields." <https://arxiv.org/abs/2102.02409>.  
*Submitted to Journal of Machine Learning Research.*

**Liu R.**, Regier J., Tripuraneni N., Jordan M. I., McAuliffe J. D. "Rao-Blackwellized Stochastic Gradients for Discrete Distributions." *International Conference on Machine Learning*. June 2019. <https://arxiv.org/pdf/1810.04777.pdf>.

Giordano R., Stephenson W., **Liu R.**, Jordan M. I., Broderick T. "Return of the Infinitesimal Jackknife." *Conference on Artificial Intelligence and Statistics*. April 2019. <https://arxiv.org/pdf/1806.00550.pdf>.

-- selected for Notable Paper Award and oral presentation

**Liu R.**, Giordano R., Jordan M. I., Broderick T. "Evaluating Sensitivity to the Stick Breaking Prior in Bayesian Nonparametrics." *NIPS, All of Bayesian Nonparametrics workshop*. December 2018. <https://arxiv.org/pdf/1810.06587.pdf>.

-- selected for the ISBA@NIPS Award

-- selected for contributed talk

Giordano R., **Liu R.**, Varoquaux N., Jordan M. I., Broderick T. "Measuring Cluster Stability for Bayesian Nonparametrics Using the Linear Bootstrap." *NIPS, Advances in Approximate Bayesian Inference Workshop*. December 2017.  
<https://arxiv.org/pdf/1712.01435.pdf>.

**Liu R.**, Layton, A. "Modeling the Effects of Positive and Negative Feedback in Kidney Blood Flow Control." *Mathematical Biosciences*. June 2016: Vol. 276, pp 8-18.

**Liu R.**, Patel, M., Badal, J. "Encoding whisker deflection velocity within the rodent barrel cortex using phase-delayed inhibition." *Journal of Computational Neuroscience*. December 2014: Vol. 37, Issue 3, pp 387-401.

## **Work experience:**

**Research intern at The Voleon Group.** *Summer 2020.* Time series modeling of fixed income securities.

**Data Science Intern at Google Cloud.** *Summer 2019.* Worked on demand forecasting for Google data centers, and specifically on the development of general-purpose, validated prediction intervals.

## **Teaching:**

Linear modeling: theory and applications. Graduate student instructor. *Fall 2018*

-- selected as Outstanding Graduate Student Instructor.

Introduction to time series. Graduate student instructor. *Spring 2019*

## **Skills:**

Proficient in Python and R.

## **Other:**

Berkeley **Statistics Graduate Student Association** co-president, *Fall 2018-Spring 2019*

Gave a student talk at the bi-annual **Berkeley Stanford Joint Statistics Colloquium**, *Fall 2017*

Middle school math tutor for **Bridging Berkeley**, *Fall 2017*

Chaired worksResearch intern at The Voleon Group. Summer 2020. Time series modeling of fixed income securities.

hop for the NSF graduate fellowship application, *Fall 2017*

Co-organizer for **Berkeley Datafest**, *Spring 2017, 2018*

TA for **Duke TIP** in a number theory and cryptography course, *Summer 2015 and Summer 2016*