

# Ruofei (Brad) ZHAO

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## EDUCATION

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### University of Michigan

Ann Arbor, U.S.

*PhD Candidate in Statistics*

2014-present

- Researched on optimization algorithms involved in machine learning and statistics.
- Won the 2017 Citadel & Correlation One datathon at University of Michigan for \$20,000.
- Awarded outstanding first year PhD student for excellence in coursework.

### Peking University

Beijing, China

*Bachelor of Science in Applied Mathematics*

2010-2014

- Awarded Freshmen, Guanghua, Li Yanhong Scholarship.
- Won Outstanding Award in the 2013 Interdisciplinary Contest in Modeling (12/5500+).
- Attended Hong Kong University of Science and Technology as an exchange student for one semester.

## WORK EXPERIENCE

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### AbbVie

North Chicago, U.S.

*Experiential Intern in Pipeline Statistics*

Jun-Aug 2018

- Researched on how to adapt EAIR (exposure-adjusted incidence rate), a metric for adverse event risk, to clinical trials with treatment crossover. Theory and code developed were put into production to fulfill FDA's request.
- Investigated and confirmed the feasibility of using CRP (C-Reactive Protein) as an early decision instrument for assessing the effectiveness of treatment in immunology diseases by cleaning and merging data from multiple studies and applying bootstrap and regression techniques.

### IceKredit

Shanghai, China

*Data Science Intern*

May-July 2016

- Cleaned and feature engineered over 20G cell phone usage data and shopping record data in an on-site modeling team sent to a company's major client.
- Improved the company's ability in gauging borrowers' default risk by fine tuning logistic regression, random forest, and gradient boosting models.
- Developed a Poisson regression model for predicting soccer match score in UEFA EURO 2016 which correctly identified Iceland as a dark horse.

### University of Michigan

Ann Arbor, U.S.

*Graduate Student Instructor*

2014-present

- Instructed over 400 students through teaching labs and holding office hours in a variety of statistics courses.

## PUBLICATIONS AND PREPRINTS

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- On Conditional Parity as a Notion of Non-discrimination in Machine Learning. *To appear in Statistical Sciences.*
- Statistical Convergence of EM on General Gaussian Mixture Models. *Submitted to AISTATS 2019.*
- Measuring Adverse Event Risk with Exposure Adjusted Incidence Rate in Clinical Trials with Treatment Crossover. *Submitted to Pharmaceutical Statistics.*
- Online Low-Rank Reconstruction for Matrix Streams with Application to Network Traffic Monitoring. *In preparation.*
- An Inexact Proximal Quasi-Newton Method with Applications to High Dimensional Models. *In preparation.*

## OTHERS

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**Languages:** Business proficient English, Native Chinese Mandarin.

**Programming:** Proficient in Python and R. Some experience with Matlab, SQL, Shell, SAS.

**Leadership:** Associate Director of the Student Union of School of Mathematical Sciences Sports Department.

**Interests:** Basketball, guitar, poker.