Chunyi Zhao

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http://jesscyzhao.github.io

EDUCATION

Ph.D. Statistical Science, University of California, Santa Cruz 2017–

B.A. Mathematics, Bowdoin College 2011-2015

EXPERIENCE

Research Assistant, University of California, Santa Cruz 2018–
Point process modeling with Bayesian nonparametric approaches, supervised by Professor Athanasios Kottas .

Graduate Student Instructor, University of California, Santa Cruz Fall 2020
Taught STAT 266A, Data Visualization and Statistical Programming in R. Course material and assignments were hosted on JupyterHub.

Teaching Assistant, University of California, Santa Cruz 2017-
Created and lead discussion sections, graded exams, and presented lectures in a series of undergraduate and graduate statistics classes. Contributed to upper division class materials (STAT 132).

Research Intern, Netflix Summer 2020

Developed a novel online A/B testing method applied to real-time data in a sequential update setting where decisions are updated iteratively as data streaming. Prototyped the new classifier in Python and benchmarked it against the exiting classifier in production. The comparison showed significant speed (in terms of observations used) and accuracy (in terms of power) gain in the new model.

Data Scientist, Two Six Capital 2015–2017
Statistical modeling and programming for private equity evaluation.

- Built the company's cloud-based and distributed data science platform that are capable of scaling and parallelizing with multiple computational back-ends in Python, Cython and Spark in a small team. This allowed us to speed up analyses to shorten the delivery cycle from 2 weeks to 4 days.
- Implemented and tuned statistical models for predicting customer acquisition, retention and purchasing behaviors in SMB services and retail businesses.
- Researched and implemented a Bayesian hierarchical model for more robust forecasting of retail customers' repeat purchase behavior. This approach improves prediction accuracy by more than 200% compared to existing models in situations where the customers are churned-off.
- Created data processing pipelines to ingest and summarize 3+ TBs of data. This automation standardized our due diligence analyses done manually before.
- Performed statistical analyses and forecast in due diligence projects and consulting engagements that result in company valuation reports and visualization in a highly-collaborative team environment.

Research Fellow, Bowdoin College 2014–2015
Supervised by Professor John O'Brien

- One year Honors project that models the student social cliques using a Hidden Markov Model applied to dining hall entry data.
- Implemented a Bayesian hierarchical model to obtain inference of the latent clusters.

SKILLS

Programming: R, Julia, Python, Cython.
Engineering: Redshift, Amazon Aurora, EC2, S3, VirtualEnv, Docker
Tools: Jupyter, Tableau

RESEARCH INTERESTS

Nonparametric Bayesian methods, Mixture models, Modeling and inference for point processes, Spatial statistics, Applications in biometrics and epidemiology.

WORK IN PROGRESS

- Modelling for Poisson process intensities over irregular spatial domains
- A Bayesian modeling framework for the Spatial Hawkes Process
- Application of Bernstein Polynomials modeling for Nonhomogeneous Poisson Process intensity to immunotherapy.