

Simeng Shao

CONTACT INFORMATION	Bridge Hall 401 3670 Trousdale Pkwy Los Angeles, CA 90089	✉ simengsh@marshall.usc.edu
PERSONAL WEBSITE	https://simengshao.github.io	
EDUCATION	University of Southern California , Los Angeles, CA Ph.D. Candidate in Statistics <i>Advisors</i> : Dr. Adel Javanmard, Dr. Jacob Bien 2017-2022 (Expected)	
	Renmin University of China , Beijing, China B.S. in Statistics <i>Thesis Advisor</i> : Dr. Jianxin Yin 2013-2017	
	University of California, Davis , Davis, CA General Course. Statistics 2015-2016	
RESEARCH INTERESTS	Statistical Inference, Feature Selection, Selective Inference, High-dimensional Statistics, Multiple and Structured Testing, Dynamic Pricing.	
PUBLICATIONS	A. Javanmard, H. Nazerzadeh and S. Shao . "Multi-Product Dynamic Pricing in High-Dimensions with Heterogeneous Price Sensitivity." IEEE International Symposium on Information Theory (ISIT), 2020. S. Shao , J. Bien, and A. Javanmard. "Controlling the False Split Rate in Tree-Based Aggregation." <i>Submitted to Journal of the American Statistical Association, 2021.</i>	
WORKING PAPERS	S. Shao , J. Bien, and A. Javanmard. "Statistical Inference for Model Parameters of a Mixture of Linear Models." <i>Work in Progress</i>	
PROJECTS	A Blessing or Curse? Analysis on the Dark Side of the Oscar Award , Los Angeles, CA 2020 <ul style="list-style-type: none">- The project studied how the Academy Awards impact the movie industry by studying two questions: i) does winning Oscar's have an economic benefit? and ii) what is the risk of making films specifically targeting winning the Academy Awards? Using analysis that applied machine-learning methods (such as k-means clustering) and causal inference methods (such as propensity-score matching, difference-in-difference and synthetic control), we analyzed the effects on ratings and box-office performances of winning and be nominated for the Oscar Awards. We also developed a machine-learning method for identifying Oscar-bait movies and mainstream movies and compared the benefits and risks of both strategies. Functional Graphical Model for High-dimensional Data with Sparsity and Irregularity , Beijing, China 2016-2017 <ul style="list-style-type: none">- Undergraduate thesis on modeling conditional dependence structure among multivariate Gaussian random processes using Graphical Model- Proposed extension to model sparse and irregularly-observed data, investigated the sparsity conditions for maintaining consistency and implemented with numerical study and EEG data Classified Mixed Model Prediction (CMMP) , Davis, CA 2016 <ul style="list-style-type: none">- Leader of NSF-funded undergraduate research group that focused on prediction with mixed model with subject-specific random effects	

- Proposed a restricted maximum likelihood (REML) prediction and Implemented the method with numerical experiments and crop area data in Iowa counties

Functional Data Analysis with Applications to Stock Market Data,
Davis, CA **2016**

- NSF-funded undergraduate research that focused on applying functional data analysis methods to 30-year S&P 500 indices and predicting future volatility
- Explained the yearly variation of stock data by Functional Principal Component (FPC) analysis, investigated contemporaneous relationships by Functional Concurrent Regressions using longitudinal varying coefficient model

TEACHING EXPERIENCE **University of Southern California**
Instructor, BUAD 310 Applied Business Statistics **Summer 2020**
Teaching Assistant, BUAD 310 Applied Business Statistics **Spring 2020**

HONORS AND AWARDS **Marshall/Graduate School Fellowship** **2017-2022**
Competitive fellowship for graduate students to support their doctoral work, covering their tuition and stipend.
Highest Prize of Academic Scholarship **2015-2016**
First place among department of Statistics.
Chancellor Scholarship **2015-2016**
One of the total 57 students in school and full year of scholarship for exchange program.

CONFERENCES & INVITED TALKS

- INFORMS Annual Meeting, Anaheim, CA **Oct. 2021**
- Joint Statistical Meetings (Virtual) **Aug. 2020**
- IEEE International Symposium on Information Theory (Virtual) **Jun. 2020**

SOFTWARE Software package “HAT” available on CRAN.

ACTIVITIES **IIDATA Statistics Convention** **Dec. 2015 – May. 2016**
The first student-run Statistics Convention at UC Davis.
Core Member, Academic Team.
Technology & Education Connecting Culture, Summer Institute **Jul. 2015**
Provided academic and pedagogical training to village school teachers in Binchuan, Yunnan, China.

COMPUTING R, Python, Matlab, C, LaTeX, Microsoft Office.