

# Junshu Bao

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<b>Education</b>	Ph.D. Statistics (exp. May 2016), University of South Carolina, Columbia, SC – GPA 4.0 – Advisor: Dr. Timothy Hanson M.A. Mathematical Statistics (2007), Wayne State University, Detroit, MI M.S. Financial Engineering (2003), Columbia University, New York, NY B.A. Finance (2000), Dongbei University of Finance and Economics, China
<b>Research Interests</b>	Bayesian semi- and non-parametric modeling, multivariate analysis, categorical data analysis, longitudinal data, functional data, statistical learning, spatial-temporal modeling.
<b>Publication</b>	Bao, J. and Hanson, T. (2015). Bayesian nonparametric multivariate ordinal regression. <i>Canadian Journal of Statistics</i> , 43, 337-357.
<b>Manuscripts Under Review/Revision</b>	Bao, J., Hanson, T., McMillan, G., and Knight, K. (2016+). Assessment of Distortion Product Otoacoustic Emissions Test-Retest Difference Curves via Hierarchical Gaussian Processes. <i>Biometrics</i> , minor revision requested. Bao, J. and Hanson, T. (2016+). A Mean-Constrained Finite Mixture of Normals. Submitted to <i>Statistics &amp; Probability Letters</i> . Under revision.
<b>Works in Progress</b>	Bayesian nonparametric multivariate nominal regression Bayesian spatial-temporal statistical learning using stacked Gaussian processes Testing linearity and normality assumptions in linear mixed models Generalized linear mixed models with mean-constraints
<b>Research Presentation</b>	1. Oral presentation: “Bayesian Nonparametric Multivariate Ordinal Regression”. ENAR Spring meeting, Miami, March 2015 2. Poster presentation: “Assessment of Distortion Product Otoacoustic Emissions Test-Retest Difference Curves via Hierarchical Gaussian Processes”. ENAR Spring Meeting, Austin, TX, March 2016
<b>Teaching Experience</b>	STAT 509 (Statistics for Engineers), Fall 2015–Spring 2016, U-SC STAT 201 (Elementary Statistics), Fall 2011–Spring 2015, U-SC MAT1800 (Algebra with Trigonometry), Spring 2006, W-SU
<b>Computer Skills</b>	SAS, R, Fortran, Python
<b>Immigration Status</b>	U.S. permanent resident.

## Consulting Experience

### Graduate Assistant in Statistical Consulting Lab

Junshu Bao

University of South Carolina, Fall 2014.

- Performed multinomial logistic regression on herons prey method data.
- Analyzed multiple-level nested marketing data using two-part model (logistic regression+GEE)
- Tested whether the distributions of one specific animal activity differ
- Used K-means and hierarchical clustering methods to group articles based on the frequency of their key words.

## Employment History

### Advanced Analytics Intern

Liberty Mutual Insurance, Boston, MA, Jun. - Aug. 2014.

- Analyzed large volumes of personal insurance claims data using SAS and R.
- Built and tested longitudinal models to predict property insurance losses over time.
- Evaluated the functionality and performance of Revolution R within the enterprise data environment.

### Research Assistant

Department of Management Science, Darla Moore School of Business, University of South Carolina, Columbia, SC, May - Aug. 2011

- Project goal: to examine the subscription of car radio stations after free-trial period
  - \* Extracted consumer-level data from marketing campaigns and prepared analytic datasets for the project
  - \* Built predictive models via traditional logistic regression as well as machine learning algorithms such as decision trees, using SAS and R

### Statistical Analyst

DaimlerChrysler Corporation, Auburn Hills, MI, Jul. 2006 - Aug. 2007.

- Conducted fatality risk and serious injury rate analyses using both field and simulated data.
- Examined the effectiveness of safety belt and airbag in car crashes.
- Performed extensive literature review on car safety studies.

### Research Intern

House Fiscal Agency, Lansing, MI, May -Aug. 2005.

- Collaborated with Agency economists on a project investigating the effects of tax policy change on employment.
- Collected and cleaned tax and employment data from internal and external sources.
- Conducted statistical analyses using SAS and presented results to Agency leadership.

## Major Courses

Mathematical Statistics I & II; Linear Models; Probability Theory I & II  
Data Analysis I & II; Categorical Data Analysis; Statistical Computing  
Bayesian Biostatistics and Computation; Survival Analysis;  
Design of Experiments; Stochastic Processes; Time Series;  
Optimization Models and Methods; Analysis I & II; Abstract Algebra I & II  
Large Sample Theory; Advanced Statistical Inference; Nonparametric Inference

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**Honors and  
Awards**

**Outstanding Graduate Student in Academics Award,**  
University of South Carolina, 2014

**Graduate Professional Scholarship,** Wayne State University, 2005 - 2006

**Professional  
Affiliations**

American Statistical Association (ASA)

Section on Bayesian Statistical Science (SBSS) of ASA

International Biometric Society (ENAR)