GAUTAM SABNIS

Uncertainty quantification, dimension reduction, variable selection, teaching

Postdoctoral Researcher. On the market for data science positions.

EDUCATION

2012–2017 **Florida State University**
PhD in Statistics, GPA: 3.99/4 — Tallahassee, FL

2009–2011 **University of Pune**
MSc in Statistics — Pune, India

2006–2009 **St. Xavier's College**
BSc in Statistics — Mumbai, India

RESEARCH EXPERIENCE

2018/07–Present **Postdoctoral Research Associate**
Boston University — Boston, MA

- Developed the first semi-parametric quasi-Bayesian method for variable selection in high-dimensional instrumental variable linear models
- Implemented an efficient Markov Chain Monte Carlo sampler to sample from the quasi-posterior distribution
- Applied the method to calculate earnings of individuals in presence of endogenous variables from U.S census data

2017/08–2018/06 **Postdoctoral Research Fellow**
University of Michigan — Ann Arbor, MI

- Explored a Bayesian logistic regression model for analyzing placement data on nearly 19,000 faculty in three disciplines
- Designed a Metropolis-Hastings-within-Gibbs-sampler for making inferences on the placements network model in R
- Implemented a divide-and-conquer approach to studying interactions in a high-dimensional thyroid gene expression data set in Matlab
- Published a paper on compressed covariance matrix estimation with automated dimension learning for covariance structures arising via factor and PCA-type models

07/18/2016–07/27/2016 **SAMSI Industrial Mathematics & Statistical Modeling Workshop**
North Carolina State University — Raleigh, NC

- Collaborated with *Environmental Protection Agency (EPA)* and *National Oceanic & Atmospheric Administration (NOAA)* in a 10-member interdisciplinary team project
- Worked with large data sets obtained from satellites and ground sites to explore the impact of international transport of air pollution on coastal areas of the U.S.
- Fit generalized additive model for predicting $PM_{2.5}$ levels from satellite measurements in presence of other variables

CONTACT INFO

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LINKS

gautam-sabnis.github.io

linkedin.com/in/gautam-sabnis/

github.com/gautam-sabnis

TECHNICAL SKILLS

Programming: R, Matlab, Python

Documentation: LaTeX, Markdown

Version control: Git

Cluster Computing

SELECTED TEACHING EXPERIENCE

Spring 2019
Basic Statistics & Probability
Boston University — Boston, MA
- Taught a class of 98 students many topics including probability, confidence intervals and hypothesis testing using JMP

Winter 2018
Computational Methods using R
University of Michigan — Ann Arbor, MI
- Taught upper division course on computational methods in R & RStudio covering Monte Carlo methods for sampling, integration & optimization, Bootstrap, EM algorithm, Markov Chain Monte Carlo methods

Spring 2017
Introduction to Mathematical Statistics
Florida State University — Tallahassee, FL
- Taught upper division course on mathematical statistics including probability, conditional probability, random variables, jointly distributed random variables.

AWARDS

2018
Yongyuan and Anna Li Award
Department of Statistics, Florida State University — Tallahassee, FL
- First place winning talk for the graduate student symposium

2017
Student Poster Award
Mayo Clinic — Jacksonville, FL

2017
Student Paper Award Winner at Biostatistics Workshop
Department of Biostatistics, University of Florida — Gainesville, FL

2013
Best First Year Student in Computational Statistics
Department of Statistics, Florida State University — Tallahassee, FL

SELECTED PRESENTATIONS

May 2019
Bayesian Variable Selection in Linear Regression Models with Instrumental Variables
Contributed talk at 33rd New England Statistics Symposium
Hartford, CT

SELECTED PUBLICATIONS

2018
Compressed Covariance Estimation with Automated Dimension Learning
Sabnis, G., Pati, D., Bhattacharya, A. (*Sankhya Series A*, doi:10.1007/s13171-018-0134-x)
Ann Arbor, MI

Skills, Interests and Hobbies

Karate: 6+ years training
Brown Belt

Tabla: 3+ years training
Cleared 3 theory and practical exams.

Soccer: Regular starter on team for intramural soccer at Florida State University.

Playing chess.

Languages: English, Hindi, Marathi