Yang Jiao

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EDUCATION

Ph.D. in Statistics, University of Connecticut, Storrs, CT **Aug 2018 —present**
M.S. in Mathematics and Statistics, Minnesota State University, Mankato, MN **Aug 2016 —May 2018**
B.S. in Electrical Information Science and Technology, Nankai University, Tianjin, China **Sep 2012 —Jun 2016**

SKILLS

- Analytics: Statistical Inference, Hypothesis Testing, Convex Optimization, Distributed Computation, Machine Learning for supervised learning and unsupervised learning, Survival Analysis, and Experiment Design
- Languages: proficient at R and C++, Fortran; intermediate at Python, SQL, and SAS
- Tools: VS code, Latex, Git, Apache Spark
- Certificate: From Data to Insights with Google Cloud (Coursera 2020)

HIGHLIGHTED PROJECTS

Research projects:

- **Distributed composite quantile regression**
  Proposed a new algorithm for composite quantile regression with elastic net penalty by superimposing kernel smoother and MM algorithm and built the associated R package using Fortran; implemented the algorithm on a distributed system on UConn HPC using Apache Spark through sparklyr; showed the non-asymptotic error bound and verified through numerous numerical simulations.
- **Semismooth Newton's method for quantile regression**
  Derived semismooth Newton's algorithm for smoothed check loss using the Morel Envelope for the dual problem and augmented Lagrangian method; implemented the algorithm in R.
- **A greedy algorithm for variable selection in quantile regression**
  Developed a forward and backward greedy algorithm for variable selection in the quantile regression setting; built and tested R package using C++.

Selected course projects:

- *Applied Statistics:* Conducted feature engineering on the UConn admission data including coding, scaling and stratifying; built a generalized linear model on UConn admission data using logit link, predicted applicant's acceptance rate and evaluated the validity of the model using ROC curve with an optimal AUC of 86.7%
- *Financial Data Mining and Big Data Analytics:* Built a four-layer dense neural network model to predict credit card fraud cases with Keras; implemented oversampling technique to improve the model fit and introduced drop-out to improve the validity to approximately 98%
- *Applied Statistics:* Conducted explorative data analysis of the LA crime data; created various plots with *ggplot2* and maps with *ggmap*, performed non-parametric analysis

WORK EXPERIENCE

Teaching Assistant at the Department of Statistics, University of Connecticut **Aug 2020 —present**

- Primal instructor for *Analysis of Experiments*: Created lecture notes, homework problems and exams
- Instructor for discussion sessions for *Mathematic statistics*: Graded and demonstrated problem solutions
- Graders for *Introduction to Statistics I* and *Introduction to Statistics II*

Teaching Assistant at the Department of Physics, University of Connecticut **Aug 2018 — Dec 2019**

- Lab instructor for *General Physics I and General Physics II:* Led the students the classical experiments by demonstrating the theory and procedures of classical experiments.

Teaching Assistant at the Department of Mathematics and Statistics, Minnesota State University, Mankato
Aug 2016 – May 2018

- Primal instructor for *College Algebra:* Created lecture notes, homework problems and exams.