QI QI

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EDUCATION

University of Connecticut 2017-2020 (expected)
Ph.D. Statistics, Department of Statistics
GPA: 3.97/4.0

University of Connecticut 2015-2017
M.S. Statistics, Department of Statistics
GPA:4.0/4.0

Renmin University of China 2011-2015
B.S. Statistics, School of Statistics
GPA: 3.15/4.0

WORK EXPERIENCE

Research Consultant: Boehringer - Ingelheim 2019-2020
Conduct exploratory analyses based on simulation or historical data to address regulatory authorities' comments and questions; establish change point model with survival time adjustment; utilize semi-parametric bootstrap to determine appropriate endpoints to select optimal dose for CKD Phase II dose finding clinical trials; conduct research for potential type I error inflation if using Chronic slope to assess treatment effect.

Research Assistant: Albert Einstein College of Medicine 2017-2019
Establish innovative statistical methods to evaluate prediction accuracy of a new classification system of memory impairment and investigate transitional probabilities among stages of memory impairment.

Internship: Boehringer - Ingelheim 2019
Established change point detection model based on stochastic process and applied to Chronic Kidney Disease (CKD) data.

Statistical Consultant: University of Connecticut 2017-2019
Presented workshops: *Variable Selection with Demos in R* and *Survival Study Design and Analysis*.
Completed several full projects, provided walk-in and online service.

RESEARCH INTERESTS

Survival Analysis, Bayesian Methods, Longitudinal Data Analysis, Joint Modeling, Stochastic Models, Data Visualization, Machine Learning, Data Mining, Statistical Computing

RESEARCH EXPERIENCE

Zero-inflated Poisson Mixture Model for Multidimensional Microbiome Data 2019
Construct zero-inflated Poisson mixture model and apply machine learning approach to cluster species and investigate effects from different treatments.

Bayesian Joint Models of Longitudinal Ordinal Outcomes and Time-to-event Data 2018-2019
Construct joint models and ROC curves to evaluate predictive performance of a new classification for Alzheimer's Disease and compare with other markers.

A Multi-stage Stochastic Transitional Model in The Analysis of Longitudinal Data 2018-2019
Construct the stochastic multi-stage model to estimate transition probability among five stages from a new classification of memory impairment and establish reversible model.

Interactive Visualization of Difficulties of Scheduling Classes 2019
Conducted R shiny apps (demo: https://qiqi7777.shinyapps.io/registrar/) to visualize the occupancy of classrooms of University of Connecticut. Built a web-page for registrar office to describe the difficulties of

classroom schedule and analyze the compliance of standard meeting pattern.

Interactive Visualization of Changes in Housing Condition in NYC 2019
Built R shiny apps (demo: https://qiqi7777.shinyapps.io/nyc_housing/) to describe the changes in housing conditions for the first generation and second generation immigrant householders living in New York City.

Change Point Detection and Slope Estimation for eGFR 2019
Constructed two different random slope models based on Poisson process to detect one or two change points and estimate the chronic slope.

Bayesian Mixture Model on Determination of Root Cause Frequency 2018
Estimated the proportion of root cause using power prior method and compared with EM algorithm.

Change Point Detection of Reputation Damage 2018
Constructed change point analysis to detect reputation damage of United Airline based on high dimensional data obtained by text mining on the customers' comments from Facebook.

Cost-Benefit Study 2017
Conducted cost-effectiveness analysis and subgroup analysis on the SEER data based.

Competing Risk Analysis Based on SEER Breast Cancer Data Set 2017
Estimated CIF and test the equality between different cause of death. Constructed semiparametric proportional hazards model for the cause-specific functions.

TECHNICAL SKILLS

R, SAS, BUGS, JAGS, SPSS, AMOS, Matlab, Stata, LaTeX, Github, Mathematica, R Shiny

LEADERSHIP AND SCIENTIFIC ACTIVITIES

- **Volunteer**: BI-Uconn Summer Academy 2019
- **Committee Member**: Conference on Bayesian Modeling, Computation and Applications 2018
- **Session Chair**:
  - Joint Statistical Meeting 2019
  - Conference on Bayesian Modeling, Computation and Applications 2018

HONORS AND AWARDS

- Research Fellowships: Obtained from Boehringer-Ingelheim (1 year funding) and from Albert Einstein College of Medicine (2 years funding)
- Doctoral Student Travel Fellowship: Awarded to fund travel to present research on conferences
- Service Award: Awarded for excellent statistical consulting service at Uconn

PAPERS UNDER REVIEW

- Yaoshi Wu, Wansuk Choi, Qi Qi, Zhichao Sun, Qiqi Deng, Brian Jin. A random change point model using stopping time of Poisson process for estimating two intersecting lines. Under review at *Statistics in Medicine*.
- Yaoshi Wu, Qi Qi. A random two-change-point model using stopping time of Poisson process and estimation function for estimating three intersecting lines. Under review at *Statistics in Medicine*.

WORKING PAPERS

- Qi Qi, Lynn Kuo, Susan Resnick, Ellen Grober. Bayesian Joint Modeling of Longitudinal Ordinal Outcomes and Time-to-Event Data.
- Qi Qi, Guanyu Hu. Bayesian Mixture Model and Determination of Root Cause Frequency.

WORK IN PROGRESS

- Qi Qi, Lynn Kuo, Susan Resnick, Ellen Grober. Multi-stage Stochastic Transitional Models with Application to Baltimore Longitudinal Study of Aging.

- Qi Qi, Lynn Kuo, Sinyu Shen. Zero-inflated Poisson Mixture Model with Application to High-dimensional Microbiome Data.

PRESENTATIONS

Interactive Visualization of Housing Condition Changes in NYC 2019
Speed presentation and e-poster for data challenge competition: *Joint Statistical Meeting (JSM)*

Predicting Alzheimer's Disease Using a New Classification System Based on Objective Memory Impairment Assessment 2019
Poster session for student paper competition: *the 33rd New England Statistics Symposium (NESS)*

A Multi-Stage Stochastic Model in the Analysis of Longitudinal Data 2018
Invited presentation: *Conference on Bayesian Modeling, Computation and Applications*