

QI QI

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EDUCATION

University of Connecticut Ph.D. Statistics, Department of Statistics GPA: 3.97/4.0	2017 - 2020 (expected)
University of Connecticut M.S. Statistics, Department of Statistics GPA: 4.0/4.0	2015 - 2017
Renmin University of China B.S. Statistics, School of Statistics GPA: 3.15/4.0	2011 - 2015

WORK EXPERIENCE

Research Fellow: Boehringer - Ingelheim <ul style="list-style-type: none">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.	Dec 2019 - present
Internship: Boehringer - Ingelheim <ul style="list-style-type: none">Established change point detection model based on stochastic process and applied to Chronic Kidney Disease (CKD) data.Completed two manuscripts.	May 2019 - Aug 2019
Research Assistant: Albert Einstein College of Medicine <ul style="list-style-type: none">Conducted analyses to evaluate a new memory impairment classification system and investigated the prediction performance on Alzheimer's Disease.	Aug 2017 - present
Statistical Consultant: University of Connecticut <ul style="list-style-type: none">Presented workshops: <i>Variable Selection with Demos in R</i> and <i>Survival Study Design and Analysis</i>.Completed several full projects, provided walk-in and online service.	Aug 2017 - May 2019

RESEARCH INTERESTS

Longitudinal Data Analysis, Survival Analysis, Joint Modeling, Multi-stage Analysis, Stochastic Models, Data Visualization, Bayesian Methods, Machine Learning, Statistical Computing.

RESEARCH EXPERIENCE

Bayesian Zero-inflated Mixture Model for Multidimensional Microbiome Data Construct Bayesian zero-inflated mixture model and apply machine learning approach to cluster subjects and investigate effects from different treatments.	2019
Bayesian Joint Models of Longitudinal Ordinal Outcomes and Time-to-event Data Constructed joint models and ROC curves to evaluate predictive performance of a new classification for Alzheimer's Disease and compare with other markers.	2018-2019
A Multi-stage Stochastic Transitional Model in the Analysis of Longitudinal Data Construct the stochastic multi-stage model to estimate transition probability among five stages from the new classification of memory impairment and establish reversible model.	2018-2019

Interactive Visualization of Difficulties of Scheduling Classes 2019
 Conducted R shiny apps to visualize the occupancy of classrooms at 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 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 random change point models using stopping time of Poisson process for estimating two/three intersecting lines.

Bayesian Mixture Model on Determination of Root Cause Frequency 2018
 Conducted Bayesian Gaussian mixture model using power prior method to estimate the proportion of root cause and compared with EM algorithm.

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

Cost-Benefit Study and Competing Risk Analysis on SEER data sets 2017
 Conducted cost-effectiveness analysis, tested the equality between different cause of death and constructed semiparametric proportional hazards model for the cause-specific functions.

TECHNICAL SKILLS

R (mainly using packages *nimble*, *ggplot2*, *shiny*, *dplyr*, *R2jags*, *vegan*, *phyloseq*, etc.), SAS, BUGS, JAGS, SPSS, AMOS, Matlab, Stata, L^AT_EX, Github, Mathematica

LEADERSHIP AND SCIENTIFIC ACTIVITIES

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

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.
- 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.
- Yaoshi Wu, Qi Qi. A random two-change-point model using stopping time of Poisson process and estimation function for estimating three intersecting lines.

WORK IN PROGRESS

- Qi Qi, Lynn Kuo, Susan Resnick, Ellen Grober. A Multi-stage Stochastic Transitional Model with Application to Baltimore Longitudinal Study of Aging.
- Qi Qi, Lynn Kuo, Sinyu Shen. Bayesian Zero-inflated 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*

TEACHING EXPERIENCE

- Instructor, Introduction to Mathematical Statistics II (STAT 3345)
 - Spring 2019, Teaching Evaluation: 4.0 out of 5, Class Size: 41
- Instructor, Discussion Section of Introduction to Statistics (STAT 1000Q) and Elementary Concepts of Statistics (STAT 1100Q)
 - Fall 2018, Spring 2018, Fall 2017, Spring 2017, Class Size: 12
- Teaching Assistant, Advanced Probability (STAT 6325)
 - Fall 2018