

冯倩 (Qian Feng)

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Education Background

The University of Melbourne

Course name: Doctor of Philosophy-Science

Melbourne Integrative Genomics
School of mathematics and statistics

Top 3 in Australia

Sept 2017 to present

Renmin University of China (211,985)

Master of Medicine

Major: Epidemiology and Health Statistics, School of Statistics
GPA: 3.73/4.00

Top 10 in China

Sept 2014 to June 2017

Relevant Coursework: Biological Statistics, Advanced Seminar in Data Analysis, Generalized Linear Models, Design of Experiments and Modelling, Survival Analysis

China Agricultural University (211,985)

Bachelor of Science

Major: Mathematics and Applied Mathematics, School of Science
GPA: 3.80/4.00

Top 30 in China

Sept 2010 to July 2014

Relevant Coursework: Theory of Probability, Mathematical Statistics, Multivariate Statistical Analysis, Data Mining, Mathematical Software Training

Research Experiences

Research Projects

Professor Danhui's Group

Sept 2014 – June 2017

(1) Development and validation of a preoperative scoring system to predict mortality in patients undergoing hip fracture surgery.

In this project, I was the team leader of five quantity surveyors on a large corporate project. After selecting the most important 10 risk factors by Multivariable Logistic Regression and Gradient Boosting Tree, we introduced the Nottingham Hip Fracture Score (NHFS) system to calculate the score of every indicator under different classifications. A higher total score in one patient represented a higher mortality risk after surgery.

We not only evaluated the effect of prediction by receiver operating characteristic curve (ROC), but also checked the scale's reliability and validity by Item Response Theory in which we chose the GPCM model. Furthermore, structural equation model was also utilized in order to get the weights of all latent variables.

By doing this project, I got the ability to work successfully as a leader in a team as I assigned different tasks to members appropriately; however, the most important thing is that not only me but all my team members learned the specific statistical methods to solve this kind of problem which would be of great importance to improve our problem-solving skills. I got the sense of accomplishment, and I had greater passion to future statistical research.

(2) Data analysis for hospital information and management system(HIS)

Our team conducted basic data mining in HIS database with SAS, including data cleaning and standardization, comprehensive statistical description about certain population. We also got association rules and complex network analysis between diseases and medicines, the outcome of which was shown by web graphs drawn with clementine software.

This project gave me the chance to learn SAS systematically. I was attracted by the data processing software, which could dig out the information hidden in big data; I also studied the details about association rules, including support and confidence.

(3) Marker identification in high-dimensional class-imbalanced data

Research object in this project is the people who have adverse reactions after taking a certain medicine. What we need to do was to find out the related risk factors. we reviewed the R package "glnet" and added more functions by fitting a linear interaction model with group-lasso regularization that enforces strong hierarchy in the estimated coefficients. Eventually it could return actual main effects and interaction effects. My role in this team was to find applicable algorithm from academic papers and write R codes to realize it.

Associate Professor Yang's Group

Sep 2014 to Dec 2015

Robust Efficacy Evaluation in Chinese Medicine with Exponential Squared Loss

We compared the effectiveness of a new Chinese medicine with an old one which could prevent and treat Mild cognitive impairment (MCI). Randomized controlled trial (RCT) was carried on by a multi-centre collaboration. In this project, I was responsible for data analysis and essay writing. We introduced the exponential squared loss to our model after collecting the demographic indicators and the response variable: falling score of ADAS-cog. This method proved to have robustness property and hence took place of the squared loss function. In order to verify the effect of this new method, we also conduct simulation studies which perform outstandingly.

Overall, in practice, I have participated in more than 5 projects during the last 2 years and have gained a wealth of experience.

- Experience with literature searching, statistical analysis, model development
- Good at SAS and R-programming language
- Excellent organizational skills
- Self-motivated and result-oriented personality

Teaching Assistant

Mar 2016 to Jul 2016

Tutoring the undergraduate students for homework and grading homework on subjects "Multivariate Statistical Analysis". This job enabled me to confirm that I was strongly interested in statistics and helped me to get a better understanding of statistical methods.

Publications

1. China Price

Jianxi Zhao, Qian Feng, "An Empirical Study on the Relationship Among Urbanization, Resident Consumption and Economic Growth in China", 2017, 2, 10-13

2. China Price

Guoyong Chen, Jian Huo, Qian Feng, "An Empirical Study on the Influencing Factors of per Capita Health Expenditure in China", 2017, 4, 86-88

3. Journal of the Franklin Institute

Jianxi Zhao, Qian Feng, Lina Zhao (2016) Taylor Expansion Nonmonotone Line Search Algorithm for Unconstrained Nuclear Norm Minimization (submitted)

4. Chinese Journal of Integrated Traditional and Western Medicine

Yang Li, Qian Feng (co-first author), Danhui Yi, Fang Lu (2016) Robust Efficacy Evaluation in Chinese Medicine with Exponential Squared Loss (submitted)

Language Proficiency

IELTS 6.5 (Listening: 6.5, Reading: 6.5, Speaking: 5.5, Writing: 6.5)

PTE Academic 68 (Listening: 67, Reading: 62, Speaking: 64, Writing: 74)

Extracurricular Activities and Awards

1 Excellence Award in the First "QUCHENWANG" Essay Competition, China Agricultural University, 2011.12

2 National Encouragement Scholarship, China Agricultural University, 2011.12, 2012.12

3 The First Prize Scholarship, China Agricultural University, 2013.12

4 Scholarship of Academic Excellence, China Agricultural University 2013.12

5 Outstanding Graduates Awards, China Agricultural University, 2014. 6

6 The First Prize Scholarship, Renmin University of China, 2015.12

7 Beijing Outstanding Graduates Awards, Renmin University of China, 2017.6

Supervisors

Yuqin Yao

Associate Professor
China Agricultural University
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Yao-ban Chan (present)

The University of Melbourne
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Danhui Yi

Professor
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Heejung Shim (present)

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