HU, HAORAN

Phone:18826076096 *Email: hh2767@caa.columbia.edu*

EDUCATION

Columbia University, Mailman School of Public Health, New York, NY ***Sep.2018 – May. 2020***

Master of Science in Biostatistics;

- ***GPA: 4.00/4.00***

South China University of Technology (SCUT), Guangzhou, China ***Sep. 2014 – Jun. 2018***

Bachelor of Science in Mathematics and Applied Mathematics;

- ***GPA: 3.78/4.00, Top 4 among 50 students***

RESEARCH EXPERIENCE

Columbia University, Department of Biostatistics, New York, NY ***Jun. 2019 – present***

Research Assistant with Prof. Zhezhen Jin

- Project: Relationship of education level and Apoe4 gene status with the rate of decline in cognitive level
  - Processed data for modeling, along with exploratory analysis
  - Investigated associations between risk factors (educational level and ApoE4 gene status) and changes in a variety of cognitive outcomes, including short term memory, recognition memory, etc., adjusting for age, gender, etc.
  - Fitted GEE models and included risk factor-by-time interaction terms to evaluate associations stated above
  - Checked linearity assumption by plotting marginal residuals vs. explanatory variables
  - Assessed the effects of missing data by multiple imputation and pooled analysis
  - Wrote statistical reports, and presented results to professor and collaborators

Chinese Academy of Science, Institute of Automation, Beijing, China ***Jan. – Feb.2017***

Research Assistant with Prof. Xing Chen

- Project: Predicting miRNA-Disease associations based on similarity networks
  - Read and presented papers on computational methods for microRNA-disease association prediction
  - Based on algorithms provided by the papers, replicated results in the papers through Matlab programming
  - Proposed improved RWRMDA algorithm by using Gaussian kernel function and semantic similarity of diseases to construct disease similarity matrix
  - Validated accuracy of improved random walk through Matlab programming

ACADEMIC PROJECTS

Columbia University, Introduction to RCT course project ***Apr. 2019***

- Prepared proposal for hypothetical NIH phase III two-parallel-group randomized clinical trial evaluating efficacy and safety of LY3298176, a promising novel intervention for type 2 diabetes mellitus
- Addressed key issues related to randomized clinical trials: safety, outcome variables, hypothesis formulation, power, stopping rules, etc.

Columbia University, Data Science II course project ***May. 2019***

- Performed descriptive analysis to explore the associations between cardiovascular disease status and predictors
- Built and compared several classifiers, including regularized logistic regression, linear discriminant analysis, Naive Bayes, tree-based models and support vector machine to classify the subjects based on their cardiovascular disease status

South China University of Technology, Undergraduate Thesis ***Jun. 2018***

- Applied logistic regression, BP neural network, and fuzzy neural network to predict underground gas pipeline safety level
- Compared performance of these three methods using Matlab and Stata
- Defended paper in front of 4 professors and audience of 20 to 30. Won Outstanding undergraduate graduation thesis award

HONORS AND AWARDS

- Outstanding graduate award of school of mathematics (SCUT) 2018
- "Hongping Changqing" Science and Technology Innovation Award 2018
- Merit Student in South China University of Technology 2015-2017
- "Meritorious Winner" in the COMAP's Mathematical Contest in Modeling (MCM) 2016
- Macao alumni scholarship(SCUT) 2016
- Excellent leader of the student organizations (SCUT) 2015

PROGRAMMING SKILLS

R, MATLAB Frequently used in previous coursework and research projects

Stata, SQL, Mathematica, C++, C# Frequently used in at least one of the previous courses

SAS, Python Basic level