

DONGYUAN WU

GRADUATE STUDENT

Department of Biostatistics
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EDUCATION

University of Florida

Doctor of Philosophy in Biostatistics

Gainesville, FL

Aug. 2020 - present

University of Florida

Master of Science in Biostatistics

GPA: 4.00/4.00 (Overall)

Gainesville, FL

Aug. 2018 - May 2020

Minzu University of China

Bachelor of Science in Applied Statistics

GPA: 3.77/4.00 (Overall)

Beijing, China

Sept. 2013 - July 2017

PROFESSIONAL EXPERIENCE

OPS Student Research Assistant

*Department of Community Health and Family Medicine
University of Florida*

Gainesville, FL

May 2019 - Apr. 2020

- Collaborated with investigators to identify problems and provided biostatistical consultation including analysis of data, interpretation of results, and preparation of reports.

Research Assistant

*Institute of Basic Research in Clinical Medicine
China Academy of Chinese Medical Sciences*

Beijing, China

July 2017 - June 2018

- Collaborated with investigators to identify problems and provided statistical consultation including analysis of data, interpretation of results, and preparation of reports.
- Imported data from SQL, generated reproducible templates for adverse drug reaction weekly report, monthly report, and annual report by using R Markdown, and assisted to develop a platform that can automatically display these reports for different drugs.

RESEARCH EXPERIENCE

Analysis of Alzheimer's Disease scRNAseq Data

Supervisor: Dr. Susmita Datta

Gainesville, FL

Sept. 2019 - Apr. 2020

- Used 2-dimensional t-SNE plots to visualize the single-cell RNA sequencing data.
- Preprocessed dataset, such as splitting, filtering, normalization, and clustering.
- Applied hurdle models specifically designed for sequencing-based single-cell gene expression data, including CRE and MAST, to detect differentially expressed genes between AD-pathology and no-pathology.
- Did network analysis and functional annotation for those differentially expressed genes.

Risk Factors of ADR for a Traditional Chinese Medicine

Beijing, China

Supervisor: Dr. Wei Yang

Oct. 2016 - May 2017

- Processed 30,888 data in advance, such as data cleaning, data standardization.
- Analyzed all data with descriptive statistics, examined the existence of significant differences between normal group and adverse drug reaction (ADR) group by applying various hypothesis testing methods, and reported the results by using R Markdown.
- Associated resampling methods, including RUS, ROS, and SMOTE, with classification algorithms, such as decision trees, AdaBoost, random forests, and LASSO, to improve the accuracy of classifiers for the minority class (i.e., ADR group).

Evaluation of TCM Clinical Practice Guidelines

Beijing, China

Supervisor: Dr. Wei Yang

Aug. 2015 - Sept. 2016

- Processed more than 20,000 items of Traditional Chinese Medicine (TCM) data in advance, including data cleaning, data standardization.
- Analyzed data in 76 TCM syndrome and 11 subjects with descriptive statistics, and reported the results by using R Markdown based on the idea of reproducible research.

PUBLICATIONS

Wu, D., Ellis, D., and Datta, S. (2020). COVID-19: Reduced Lung Function and Increased Psycho-emotional Stress. *Bioinformatics*, 16(4), 293-296.

Wu, D., Yang, W., Tang, J., Li, X., Wang, X., Liu, H., and Yi, D. (2017). Application Research of Imbalanced Data Processing Methods on Prediction of Adverse Reactions of Traditional Chinese Medicine. *World Science and Technology/Modernization of Traditional Chinese Medicine and Materia Medica*, 19(9), 1455-1461.

AWARDS AND HONORS

Outstanding Master Graduate	<i>Department of Biostatistics, University of Florida</i>	2020
Certificate of Excellence	<i>International Center, University of Florida</i>	2019
First-class Scholarship (TOP 3%)	<i>Minzu University of China</i>	2017
Honorable Mention	<i>Interdisciplinary Contest in Modeling</i>	2016
First Prize in Beijing Region	<i>National Mathematical Modeling Contest</i>	2016
Wu Xianhong Scholarship	<i>College of Science, Minzu University of China</i>	2015, 2016

SKILLS

R, SAS, Python, L^AT_EX, C/C++, WinBUGS, MySQL, Photoshop, Illustrator, MS Office

CERTIFICATES

- Genomic Data Science Specialization by Johns Hopkins University on Coursera (2020)
- SAS Certified Professional: Advanced Programming Using SAS 9.4 (2020)
- SAS Certified Specialist: Base Programming Using SAS 9.4 (2019)
- Data Science Specialization by Johns Hopkins University on Coursera (2019)