Yu Cai

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Education

Cornell University | New York City, NY 09/2018-12/2019
- Master of Biostatistics and Data Science GPA: 3.88

Hobart and William Smith Colleges | Geneva, NY 08/2013- 06/2017
- Bachelor of Arts in Mathematics & Bachelor of Sciences in Economics GPA: 3.68
- **Honors and Awards:** Catharine Adele Rippey '35 Prize, graduating senior with highest ranking in Math, William Ross Proctor Prize in Mathematics, Dean's List, Alpha-Xi Chapter of Omicron Delta Epsilon, granted by International Honor Society in Economics

Technical Skills

Languages: R, SQL, LaTeX, Python, Java, SAS | **Tools:** Eclipse, R Studio, MATLAB, MySQL, SAS

Research Project

Biostatistics II final project: Heart Disease Prediction 05/2019
- Drawing on patient data from four national hospitals, applied stepwise and manual regression to construct a statistical model with minimum cost of time and money of lab tests, such as CP test, Blood pressure test and so on, to improve the accuracy of the diagnosis of heart disease.

Foundations Biomedical Applications R package: Summarize Continuous Variable 03/2019
- Provided an efficient way to summarize continuous response variables by categorical explanatory variable(s) by creating nice tables and graphs to display the general information of the data as well as the results of inference.

Foundations Biomedical Applications R package: Data Preparation for NHANES database 05/2019
- Download and merge multiple tables from the NHANES database, detail dataset information, automatically perform test for each pairs of variables and generate a relation graph to summarize the relationships between pairs.

Professional Experience

Math Intern | *Hobart and William Smith College***,** Geneva, NY 05/2017-06/2018
- Taught students methods to solve problems based on their preferred style of learning for Pre-Calculus, Calculus I, Calculus II, Linear Algebra, and Multi-Variable Calculus
- Worked as a teaching assistant to the professor during some lab based classes
- Served as a teaching assistant during some lab-based classes and work 30 hours a week

Research Assistant | *Hobart and William Smith College***,** Geneva, NY 05/2016-08/2018
- Worked on the Phylogenetic project, which is a combination of Mathematics, Computer Science and Biology
- Proposed a quartet based species tree structure algorithm, which is more efficient and statistically consistent compared to the traditional approach to constructing gene tress from DNA data
- Conducted literature review via Google Scholar and NCBI and conducted data analysis using programming languages such as Java, Perl, and R Studio.
- Presented the findings in figures created in Excel to show the extent to which the precision of the proposed algorithm has improved.

Data Analyst Intern | *Esperity*, Brussels, Belgium Fall 2015
- Esperity is the first multilingual support community for cancer patients. It connects peers, survivors and other cancer patients.
- Collected online data about gears that keep track on health-related information of the customers, such as fitbit, Apple watch; presented the information in tables and summarized the results in report. Collected health information based on online chat records of participants, including when they were sick, when they recovered, etc.
- Conducted literature review on Google Scholar on studies about similar studies on user behaviors.

Economic Teaching Follow | *Hobart and William Smith Colleges***,** Geneva, NY Spring 2016
- Taught students methods to solve problems based on their preferred style of learning.
- Serve as a liaison between students and faculty
- Economics Classes covered: Principles of Economics, Econometries, Macroeconomics, Microeconomics, and Statistics

Conference Experience

MAA Seaway Section Conference, State University of New York at Oswego, Oswego, NY Fall 2017
NCUWM Conference, University of Nebraska-Lincoln, Lincoln, NE Fall 2017