Wanyi Chen

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EDUCATION

Brown University, Providence RI — Expected Graduation: May 2024

ScM in Biostatistics

- **Cumulative GPA:** 4.0/4.0
- **Relevant Courses:** Probability and Statistical Inference, Applied Generalized Linear Model, Design of Experiments, Longitudinal Data Analysis, Statistical Learning and Big Data, Casual Inferences, Methods in Informatics and Data Science for Health

Boston University, Boston MA — Graduation: August 2022

B.A. in Statistics and Computer Science, Minor in Visual Arts

- **Relevant Courses:** Computer Science, Probability in Computing, Applied Statistics, Data Structures, Discrete Mathematics, Multivariate Calculus, Linear Algebra, Biology I, Microeconomics, Macroeconomics

WORK EXPERIENCE

CorEvitas, Waltham, MA — Jun 2022 - Present

Biostatistics Intern

- Estimated long-term drug survival by biologic drug class among biologically naive patients in the CorEvitas Psoriasis Registry using Restricted Mean Survival Time (RMST) Models and Cox Proportional Hazard Models
- Explored the difference and usefulness of the newer survival analysis tool RMST in comparison to the traditional Hazard Ratios using R and STATA

Brown University, Providence, RI — Dec 2022 - Jun 2023

Research Assistant

- Participated in the U.S. Department of Defense research study which focused on medication adherence in the Military Health System beneficiaries with hypertension, hyperlipidemia, and diabetes, and worked with SAS and R
- Calculated PDC (Proportion of Day Covered) and propensity scores to match treated and untreated units in a difference-in-differences study design to compare changes in medication adherence due to a change in health policy

PROJECTS

Master's Thesis: Statistical Approaches for Building Emulators — May 2023 - Present

- Implemented 3 types of emulators/meta-models to emulate a computationally intensive cohort-based simulation model that simulates fatal overdose rate for regional populations where each population has different features and characteristics
- The 3 implemented emulators are: 1) Generalized Estimating Equations (GEE) model, an extension of generalized linear models; 2) Generalized Linear Mixed Effects (GLME) model, also an extension of generalized linear models; and 3) Mixed-Effects Random Forest (MERF) model, an extension of random forest that accounts for longitudinal clustering. All three approaches are built in R and compared in terms of model accuracy and efficiency using simulated data from the cohort-based simulation model

Health Data Science Fellowship: What is A Wave? Jun 2023 - Aug 2023

- Implemented Time Series Shapelets and Bayesian Change Point approaches to predict derivative changes in infectious disease forecasting using Python and R
- Defined infectious diseases such as COVID-19 in terms of waves by defining trigger points (shapelets-based) and defining thresholds (number of deaths and number of ICU cases) for evaluating the performances of trigger points

A Shiny App: SVEIR Model Nov 2022 - Dec 2022

- Built a shiny app of a SVEIR model which is an extended SEIR model for infectious disease such as COVID-19 using R
- Implemented a SVEIR model using a set of mathematical equations from relevant scientific literatures

A WeChat Mini-Program: Roommate Matching for Students Sep 2021 - May 2022

- Developed a WeChat mini-program that aimed to help international students living on or off campus find suitable roommates with an innovative MBIT personality feature. This work won the Boston University SPARK! Innovation Award
- Collaborated with a team of 6 and was mainly responsible for front-end coding and interface structures of the mini-program using wxml, wxss, and javascript

AWARDS

- Brown University Health Data Science Fellowship 2023
- Thomas M. Menino Scholarship **-** *Full Tuition Scholarship* 2018 - 2022
- NAHMA Educational Foundation Scholarship 2018 - 2022
- Boston University SPARK! Innovation Award 2021

CONFERENCE PRESENTATION

Chen, W., & Chrysanthopoulou, SA. (2024, March 10-13). *Exploring statistical approaches for building emulators: an application to the RESPOND simulation model for Opioid Use Disorder (OUD)* [Conference Presentation]. ENAR Spring Meeting, Baltimore, MD, USA.

Ho, K., **Chen, W.**, & Cronin, A. (2023, August 8). *Application of Time Horizon Selection in Restricted Mean Survival Time Models Using Read-World Data* [Conference Presentation]. Joint Statistical Meetings 2023, Toronto, ON, Canada.

MANUSCRIPTS

Chen, W., & Chrysanthopoulou, SA. (2023). *Exploring Statistical Approaches for Building Emulators: An Application to The RESPOND Simulation Model for Opioid Use Disorder (OUD)* [Abstract submitted and accepted].

Ho, K., **Chen, W.**, & Cronin, A. (2023). *Application of Time Horizon Selection in Restricted Mean Survival Time Models Using Read-World Data* [Abstract submitted and accepted].

SKILLS

Data Analysis: proficient in R, and Excel, and familiar with SQL and SAS

Programming: proficient in Git, Jupyter, Linux, and Overleaf, and familiar with Python and Julia

Language: Fluent in English and Chinese (Mandarin, Cantonese, and Taishanese Dialect)

Other: proficient in Microsoft Office Suite, Google Suite, and familiar with Adobe Photoshop, Adobe Illustrator, Adobe Indesign, and Adobe Dreamweaver