Weijia (Grace) Yin

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Technical Skills

- Programming: Python, SQL, R, Julia, MATLAB, SAS, Git, LaTeX
- Statistics: Hypothesis Testing, Regression, Inference, Data Visualization, A/B Testing
- Machine Learning: MCMC, Causal Inference, Variational Inference, Classification, Clustering, Neural Network
- Software: MySQL, Excel, TensorFlow, Jupyter, Tableau
- Languages: Native Proficiency in Chinese Mandarin; Professional Working Proficiency in English

Slected Working Experience

B.C. Centre for Excellence in HIV/AIDS | SAS, SQL, R — Vancouver
Statistician — Oct 2022 - Present

- Answer HIV questions in HIV by wrangling longitudinal and censored HIV data for exploratory data analysis
- Fit exploratory models and confounding models including generalized linear mixed effect regression models and regression discontinuity design models; selected and adjusted optimal models
- Contribute to manuscript-writing by translating complex statistical concepts into comprehensible language for epidemiologists and proof reading

University of British Columbia — Vancouver
Research Assistant in Prof. Benjamin Bloem-Reddy's Lab — May 2020 - May 2022

- **Structural Causal Models Identification | Python**
  - Described the causal mechanisms/causal relationship in a system and derived mathematical conditions for the identifiability of structural causal models to understand the structure in causal inference
  - Simulated linear regression models and visualized synthetic data in Python for theory verification
  - Summarized analytical outputs and presented results to faculty and scholars in department seminars

Research Assistant in Prof. Bruno Zumbo's Lab — May 2019 - May 2020

- **Bayesian Estimation for Cronbach's Alpha | R**
  - Derived Bayesian estimators for reliability coefficients to measure scale inconsistency
  - Designed and implemented simulation studies to compare the properties of different Bayesian estimators

Selected Projects

- **Autonomous Driving Prediction| Python, Julia**
  - Deployed including artificial intelligence models including Multi-layer Perceptron and Convolutional Neural Network models to predict the number of autonomous driving vehicles in US
  - Deployed Multi-layer Perceptron and Convolutional Neural Network models for prediction
- **Life Extending Treatments | R**
  - Collaborated in team for data cleaning and pipeline management of life-extending treatments for rats
  - Conducted differential gene expression analysis to identify significant differentially expressed genes in analysis
- **Predicting Human Suicide Numbers | Python, R**
  - Generated geo-specific prediction on suicide numbers and illustrated the regional suicide statistics in Canada
  - Cleaned and imputed the global suicide data; built an interactive dashboard on R Shinny app to help visualize the trend
  - Developed generalized linear mixed effects models and negative binomial mixed effects regression models to reduce the mean squared predicted error of existing model by 30%

Selected Other Relevant Experiences

Teaching Assistant — Sep 2020 - Apr 2022

- Led labs, held office hours and marked assignments for statistical learning, inference and probability courses
- Assisted professors in planning and facilitating in-class activities

Statistical Consultant — Sep 2020 - Dec 2021

- Wrote reports for clients with statistical tools with guidance on how to collect and analyze their data

Publications

- N. T. Duy, P. Le-Long, and **W. Yin**: *Hardy inequalities and Caffarelli-Kohn-Nirenberg inequalities with radial derivative*, Journal of Mathematical Inequalities(2020)
- N. T. Duy, N. Lam-Hoang, N. A. Triet, and **W. Yin**: *Improved Hardy inequalities with exact remainder terms*. Journal of Mathematical Inequalities and Applications(2020)

Education

University of British Columbia — Sep 2020 - May 2022
M.Sc Statistics

University of British Columbia — Sep 2015 - May 2020
B.Sc Honours in Statistics