Rui Hu

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EDUCATION

University of Massachusetts Amherst — Massachusetts, U.S.
Ph.D. in Statistics. Advisor: Dr. Ted Westling. — Aug 2020 - Aug 2024 Expected

University of Illinois at Urbana-Champaign — Illinois, U.S.
M.S. in Statistics. — Aug 2016 - May 2018

Central University of Finance and Economics — Beijing, China
Bachelor of Economics in Statistics. — Sep 2012 - Jun 2016

RESEARCH INTERESTS

causal inference; survival analysis; non-parametric estimation; sensitivity analysis.

RESEARCH PROJECTS

Inference for Global Measures of Treatment Effect Heterogeneity
Paper in progress.

- Derived two parameters as global tools for measuring heterogeneous treatment effects, as well as a corresponding estimation and inference framework in the context of nonparametric statistical methods.
- Applied the proposed method to a NHANES data set and developed an open-source R package for the proposed methodology and drafted the manuscript.

Sensitivity Analysis to Unobserved and Residual Confounding in the Effect of Physical Activity on Mortality among Former Smokers
Paper in progress.

- Performed sensitivity analysis to assess the robustness of the causal effect to possible unmeasured confounding and residual confounding in former smoking behavior using NIH-AARP data.

TEACHING

Department of Mathematics and Statistics, University of Massachusetts Amherst

As Instructor

Statistics II (Honors Colloquium)	Spring 2024

As Teaching Assistant

R Tutoring Center (as coordinator)	Fall 2023
R Tutoring Center	Spring 2023
Regression Analysis	Spring 2022 & 2023, Fall 2022
Statistics II	Spring 2022
Fundamental Concepts of Statistics	Fall 2021

Department of Statistics, University of Illinois at Urbana-Champaign

As Teaching Assistant

Calculus II	Fall 2017
Statistical Modelling in R	Summer 2017
Statistical Computing	Spring 2017

WORK EXPERIENCE

Machine Learning Engineer, JD.com — Beijing, China
Supply Chain R&D Department — Aug 2018 – Aug 2020

- Designed and implemented a scalable machine learning-based time series classification and forecasting framework using PySpark. Reduced wMAPE from 0.41 to 0.36.
- Conducted experimental studies for the optimization of parameters of the inventory models. Monitored model performances, investigated data anomalies, and analyzed experiment results using Python and SQL.

Quantitative Analytics Intern, Wells Fargo — North Carolina, U.S.
Corporate Model Risk — Jun 2023 – Aug 2023

- Collaborated with the model developer and team member to revalidate a commercial Basel model. Contributed to several sections in the model validation report, including model framework, data inputs, model estimation and testing.
- Validated modeling codes in SAS and conducted sensitivity analysis and in-sample backtesting using Python.

OTHER EXPERIENCE

The 3rd New England Student Research Symposium on Statistics and Data Science — Apr 2024
Oral presentation: Sensitivity Analysis to Unobserved and Residual Confounding in the Effect of Physical Activity on Mortality among Former Smokers

The 9th Chinese R Conference (Beijing session) — May 2016
Oral presentation: Sentiment Analysis of News Articles for Stock Trends Prediction

AWARDS

Meritorious Winner in 2015 Interdisciplinary Contest in Modeling — Spring 2015
Semifinals in Women's Tennis (Group) at the 13th Guangdong Provincial Sports Games — Summer 2010

SKILLS

Technical skills: Advanced in R, Python and SQL; Proficient with PySpark and Hive.
Languages: Fluent in Mandarin and Cantonese; Proficiency in English.