Zhaowen Guo

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Portfolio: https://zhaowenguo.quarto.pub

Education

- **University of Washington** — Seattle, WA
  Ph.D. candidate in political science, Minor in Data Science (GPA: 3.93/4.0) — *Expected June 2024*
  - Psychometrics & Applied Analytics (PAA) Graduate Certificate
  - Summer Institute in Computational Social Science (SICSS) Certificate

Work Experience

- **Centre for the Governance of AI** — Remote
  Data Scientist — *Jan 2024 - present*
  - Conducted forecasting analysis through median aggregation techniques based on a survey of AI/ML experts, contributing analytical insights to a research report on forecasting AI progress
  - Developed R scripts to streamline the data visualization process and preliminary analysis of survey data to improve research workflow efficiency
- **Hans Rosling Population Health Center** — Seattle, WA
  Data Scientist Intern — *Jun 2023 - Aug 2023*
  - Collaborated with statistical demographers and epidemiologists to construct metrics analyzing internal migration within King County based on the Data Axle consumer database, providing insights into the spatial and temporal structure of migration dynamics
  - Developed and presented static and interactive visualizations using R and RShiny to illustrate housing supply trends and migration patterns, and enhanced overall functionality and user experience of an existing data visualization dashboard Exploring King County
- **eScience Institute** — Seattle, WA
  Data Scientist Intern — *Jun 2022 - Aug 2022*
  - Designed and implemented an algorithm using tidyverse in R and PostgreSQL to predict household groupings within a database of 10 million longitudinal administrative records in Washington State, resulting in a 9% decrease in error rate (GitHub)
  - Collaborated cross-functionally with DSHS government officials, community leaders, and research scientists to construct metrics for assessing household poverty
- **Center for Social Science Computation and Research** — Seattle, WA
  Statistical and Programming Consultant — *Sept 2021 - present*
  - Developed and delivered a curriculum for quarter-long workshops focused on data visualization, data wrangling, and introductory statistics using R and Python
  - Provided 80 hours per month of data and research consulting services for social science faculty and students, assisting them in troubleshooting coding questions and refining research designs

Selected Projects

- **Seeing Like a State: Causes and Consequences of Government Surveillance**
  (Dissertation)
  - Conducted simulation-based power analyses, drafted comprehensive questionnaires, and developed experimental designs for two online survey experiments to analyze public opinion on surveillance technologies
  - Applied confirmatory factor analysis and mediation analysis with different weighting schemes, contributing to estimating the effect of information exposure on public support for surveillance
  - Secured $30,000 research grant, presented at four academic conferences, received recognition with one Best Paper Award, and was nominated for the Presidential Dissertation Fellowship
- **To Combat Gun Violence, Green the Neighborhood**
  (The Green Space Data Challenge, Massive Data Institute)
  - Created visualizations using R to demonstrate disparities in exposure to gun violence and access to green spaces across racial groups in Washington D.C., estimated the causal effect of green spaces on gun violence, and delivered actionable policy recommendations to enhance the development of green spaces (GitHub)
  - Received recognition as a first-place winner and was invited to present at the 2023 APDU Annual Conference and the 2023 Learning Data for Good Conference

Skills

Coding: Experienced in R, Python, SQL, Qualtrics, Git/GitHub, LaTeX
Data science: survey methods (power analysis, survey weighting, item response theory, structural equation modeling, simulation analysis), causal inference (experimental methods, difference-in-difference design), machine learning (scikit-learn, BERT embeddings), data wrangling (tidyverse, pandas), data visualization (ggplot2, R Shiny), statistical modeling (generalized linear models, hierarchical models, multivariate analysis)