Zhaowen Guo

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GitHub: https://github.com/zwguo95
Portfolio: https://zhaowenguo.quarto.pub

Work Experience

- **Better Government Lab, Georgetown University** — Remote
  Postdoctoral Researcher — *Sep 2024 - present*
  - Led impact evaluations in collaboration with civic tech companies and state governments, applying field experiments, A/B testing, and quasi-experimental designs to assess the effectiveness of digital interventions in reducing administrative burdens for benefit navigators
  - Developed an interactive dashboard, SNAP QC Error Viewer, to visualize administrative errors in SNAP applications, supporting the development of an AI chatbot for caseworkers assisting with SNAP application consultations
- **Centre for the Governance of AI** — Remote
  Data Scientist — *Jan 2024 - Aug 2024*
  - Developed R scripts to streamline the data visualization process and preliminary analysis of survey data to improve research workflow efficiency
  - Conducted forecasting analysis through median aggregation techniques to provide analytical insights for a research report on cross-country public opinion about the usage and knowledge of AI
- **Hans Rosling Center for Population Health** — 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 interactive 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

Selected Projects

- **How Surveillance Technologies Collect and Disseminate Information for the State**
  (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)