Zhaowen Guo

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Education

- **University of Washington** — Seattle, WA
  PhD candidate in political science — *Sept 2018 - Jun 2024 (expected)*
- **Columbia University** — New York, NY
  MA in political science — *Sept 2016 - May 2017*

Additional Training

Survey analytics: Psychometrics & Applied Analytics (PAA) Graduate Certificate
Data science: Center for Statistics and the Social Sciences (CSSS) Certificate
Computational social science: Summer Institute in Computational Social Science (SICSS) Certificate

Work Experience

- **eScience Institute** — Seattle, WA
  Data Scientist Intern — *Jun 2022 - Aug 2022*
  - Designed and implemented an algorithm utilizing R and SQL to analyze over 10 million longitudinal administrative data records, resulting in accurate prediction of household groupings and a 9% decrease in error rate
  - Applied statistical analysis and data visualization techniques to link household groupings with American Community Survey data, contributing to the creation of targeted poverty reduction plans for the Seattle area
  - Collaborated cross-functionally with government officials, community leaders, and researchers to incorporate household data into policy-making processes

- **Center for Statistics and the Social Sciences** — Seattle, WA
  Quantitative Researcher — *Sept 2020 - Sept 2021*
  - Implemented Bayesian item response theory and differential item functioning using R and Stan to model guessing behavior in knowledge-based questions among 1,881 respondents, leading to improvement of item fairness
  - Applied confirmatory factor analysis and mediation analysis to estimate the effect of information exposure on policy support among 3,000 respondents
  - Scraped legislator data from 2000 to 2021 and enhanced bill data with additional metadata to contribute to an interactive visualization tool called Legislative Explorer
  - Fielded a randomized survey experiment among 1,122 rural households across three provinces in China using multi-stage stratified sampling to identify key drivers of conflict resolution

- **Center for Social Science Computation and Research** — Seattle, WA
  Data and Research Consultant — *Sept 2021 - present*
  - Developed and delivered a curriculum for 5 workshops focused on data visualization, data wrangling, and introductory statistics using R to enhance statistical training for underrepresented students and increase their technical skills
  - Provided data and research consulting services 80 hours per month to improve research design and evidence-based decision-making for social science faculty and students

Selected Projects

- **The Politics of AI-tocracy: Causes and Consequences of Government Surveillance**
  (Dissertation)
  - Developed web scrapers to gather government contracts and informant recruit information on surveillance and geocoded the locations of surveillance investments to model the spatial diffusion of China's surveillance state
  - Utilized semi-supervised machine learning techniques to extract policy frames related to surveillance and designed an online conjoint survey experiment to assess public attitudes toward surveillance
  - Estimated the causal impact of surveillance on public goods provision using a staggered difference-in-difference design and visualized the reduction in welfare induced by surveillance
  - Secured $20,000+ research grant, presented at four academic conferences, received recognition with one Best Paper Award, and was nominated for the Presidential Dissertation Fellowship

Skills

Programming: Experienced in R, Python, SQL
Data science: data collection (webscraping, geocoding), data wrangling (tidyverse, pandas), data visualization (ggplot2, R Shiny), survey methods (power analysis, survey weighting, item response theory, structural equation modeling, simulation analysis), statistical modeling (generalized linear models, hierarchical models, multivariate analysis, causal inference, machine learning, spatial data analysis), text analysis (topic models, word embeddings)