Deji Suolang

dsuolang@umich.edu 734-882-8156 426 Thompson St, Rm 4132, Ann Arbor, MI 48104
Full CV available at: https://dsuolang.github.io/Suolang_CV.pdf

Summary

Survey Statistician, Methodologist, and Data Scientist, Ph.D. degree expected Dec 2025.
I bring 6+ years of experience applying quantitative and qualitative methods to evaluate interventions and outcomes, uncover patterns and trends, and improve survey operations while strengthening methodological practices that support evidence-based decision-making. I have collaborated with government stakeholders, private organizations, and researchers across disciplines and cultures to improve data quality strategies and translate complex analyses into actionable insights. With expertise in survey methodology and statistical analysis, I bridge academic rigor with business impact. My work leverages novel data sources, advanced statistical techniques, and AI-augmented approaches in survey research to drive innovation, improve measurement accuracy, and increase cost efficiency.
Recognition: Published in leading journals and presented at major conferences; recipient of the Daniel Katz Fellowship under the ISR Next Generation Awards, the AAPOR Seymour Sudman Award, and multiple best paper and presentation honors.

Skills

Research Design: Sampling, Questionnaire Development, Experimental Design, Mixed-Methods Research.
Statistical & Modeling: Regression Modeling, Causal Inference, Structural Equation Modeling, Latent Growth Analysis, Weighting, Missing Data Imputation, Bayesian Modeling.
Data Visualization & Communication: Tableau, R Shiny, ggplot2, Interactive Dashboards.
AI & ML: LLMs (GPT/BERT) for Survey Response Coding, Persona-Based Survey Simulations, GPT Model Fine-Tuning (API), Machine Learning for Prediction and Classification.
Programming & Tools: R, Python, SQL, SAS, Stata, Git, Stan, High-Performance Computing.

Education

University of Michigan, Ann Arbor, MI
Ph.D. in Survey and Data Science *2021-Present*
M.S. in Survey and Data Science *2018-2020*

Nanjing University, Nanjing, China
B.A. in Sociology (with Distinction) *2014-2018*

Experience

University of Michigan, Institute for Social Research, Survey Research Center, Ann Arbor, MI
Graduate Student Research Assistant *2021–Present*
Research Associate *2018–2020*

- Designed and analyzed nationally representative cross-sectional and longitudinal surveys, applying statistical techniques such as weighting, poststratification, and multiple imputation, to address selection bias, measurement error, and nonresponse.
- Evaluated survey design strategies for USDA- and NSF-funded projects by analyzing response patterns, modeling propensity score, simulating adaptive interventions, and testing new data collection methods.
- Authored technical reports adopted by federal stakeholders, providing actionable recommendations on cost–quality tradeoffs and survey modernization that informed future national survey operations.

American Institutes for Research (AIR), Arlington, VA *Summer 2024*
NAEP Doctoral Researcher Intern, Psychometric and Statistical Methods

- Developed novel imputation strategies for item nonresponse in large-scale education surveys with latent cognitive constructs, improving psychometric measurement and statistical inference for federal statistics.
- Created reproducible guidelines for NCES on the use of imputed data, translating methodological innovations into user-friendly standards for consistent survey analysis.
- Leveraged LLMs to analyze digital process data and open-ended responses from web surveys, uncovering response patterns and potential reasons for breakoffs to enhance future data collection strategies.

Johns Hopkins Medicine, Baltimore, MD *2020–2021*
Research Assistant, Survey Statistics and Methodology

- Led methodological and analytical design for NIH-funded studies on healthcare attitudes and decision-making, developing protocols for sampling, recruitment, interviewing, and field administration across diverse target populations.
- Analyzed survey and administrative data with regression modeling, machine learning, and causal inference to identify disparities and trends in healthcare utilization, and delivered insights through reports and visualizations that guided clinician training and policy decisions.

Selected Projects

Leveraging Wearable Data to Improve Self-Reports in Survey Research *2022–Present*
Dissertation project applying mass imputation to integrate wearable sensor data with survey self-reports to improve measurement and inference.
Skills: Multiple Imputation, Simulation, Selection Bias Adjustment, Bayesian Bootstrap, Big Data Computing.

Survey Modernization and Statistical Methods for USDA FoodAPS Data *2023–Present*
Developed statistical strategies to reduce bias and improve representativeness in national food acquisition surveys.
Skills: Causal Inference, Weighting, Machine Learning, Experiment Design, Data Visualization, Data Linkage

Advancing Missing Data Methods for NCES Large-Scale Assessments *2024*
Designed tailored imputation strategies to handle missing survey and latent cognitive outcome data in large-scale education assessments.
Skills: Structural Equation Modeling, Latent Growth Analysis, GPT-based LLM, Missing Data Imputation.

Investigating Patient Care Disparities with Data-Driven Approaches *2020–2021*
Analyzed survey and administrative data, along with qualitative interviews, to examine disparities in healthcare perceptions, utilization, and outcomes.
Skills: Perception Measurement, Mixed Methods, Questionnaire Design and Testing, Regression Modeling, Survey Cost Estimation, Survey Sampling, Causal Inference.

Consulting

Partnered with: Kelsey Museum of Archaeology *2025*
Led the design and execution of a visitor experience survey that supported leadership in exhibit decisions, identified opportunities to improve visitor satisfaction, and strengthened community engagement and learning.
Partnered with: Starboard Corp. (Supply Chain SaaS, Michigan) *2020*
Conducted user research with enterprise clients through surveys and interviews, uncovering usability pain points and delivering recommendations that informed product development and guided interface enhancements.

Selected Publications

Suolang, D., Yang, J., Miller, L., Rodhouse, J. R., Page, E. T., Si, Y., & West, B. T. (2025). Weighting Adjustment and Multiple Imputation for Addressing Nonresponse in a Multi-Day Diary Survey. *Journal of Survey Statistics and Methodology (In Revision).*
Wagner, J., West, B. T., Kim, B., **Suolang, D.**, Engstrom, C., & Sinibaldi, J. (2025). Using a Stopping Rule to Optimize Cost-Quality Tradeoffs in a Large, Mixed-Mode Survey: A Simulation Study. *Journal of Official Statistics*, 41(1), 329-364.
Suolang, D., Chen, B. J., & Faigle, R. (2022). Temporal Trends in Racial and Ethnic Disparities in Palliative Care Use After Intracerebral Hemorrhage in the United States. *Stroke*, 53(3).
Suolang, D., Chen, B. J., Wang, N. Y., Gottesman, R. F., & Faigle, R. (2021). Temporal Trends in Stroke Thrombolysis in the U.S. by Race and Ethnicity, 2009–2018. ***JAMA***, 326(17), 1741–1743.

Selected Conference Presentations

Suolang, D., & West, B. T., Assessing the Generalizability of Imputation-Based Integration of Wearable Sensor Data and Survey Self-Reports: A Simulation Study. *ESRA*, Utrecht, the Netherlands, July 2025.
Suolang, D., & West, B. T., Leveraging Wearable Sensor Data to Enhance Survey Self-Reports: A Mass Imputation Approach. *AAPOR*, St. Louis, MO, May 2025.
Suolang, D., Bailey, P., Rutkowski, L., Handling Missing Contextual Data in Large-Scale Assessments: A Multiple Imputation Strategy. *NCME*, Denver, CO, April 2025.
Wagner, J., West, B. T., Kim, B., **Suolang, D.**, Engstrom, C., & Sinibaldi, J., How Different Modeling Choices Impact the Performance of Stopping Rules in a Longitudinal Study. *AAPOR*, Philadelphia, PA, May 2023.