Michael W. Robbins

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Professional Summary

- Ph.D. statistician with postdoctoral training, academic experience as a professor, and 12 years with the RAND Corporation, whose work blends methodological innovation with collaborative applied research and is supported by a strong record of extramural funding, project leadership, and software development.
- Authored approximately 100 peer-reviewed publications, has been cited over 1600 times, and produced multiple R packages that are available for use on CRAN.

Experience

University of Michigan **Ann Arbor, MI**
Research Advisor, Panel Study of Income Dynamics *02/2026 – Present*

- Reviewed, evaluated, and redesigned statistical aspects of the PSID, including weighting and imputation.

RAND Corporation **Pittsburgh, PA**
Senior Statistician *07/2021 – 11/2025*
Statistician *07/2015 – 06/2021*
Associate Statistician *08/2013 – 06/2015*

- Led ten research projects with a total value of over $10 million as a principal investigator, including grants from the NSF and NIH, and contributed as the statistical lead or other role on over 100 other projects.
- Secured funding through proposals, formed and managed interdisciplinary teams, oversaw execution of the work.
- Disseminated research findings to technical and non-technical audiences including industry experts, government sponsors, and the general public through scientific publications, reports, briefs, and presentations.
- Developed innovative statistical methodologies in a wide variety of areas including causal inference, nonprobability methods, missing data analysis, sample design, survey weighting, and time series analysis.
- Performed collaborative research across several domestic domains (such as public health, education, criminology, and drug policy) and for military and defense sponsors.
- Established an international reputation for expertise in survey methodologies, having performed sample design, weighting, and imputation for dozens of surveys.
- Integrated machine learning methods (fine-tuned LLMs, supervised classification, feature engineering, kernel-based weighting, etc.) into causal inference and survey weighting pipelines for policy analysis.
- Evaluated 20+ interventions and programs using experimental & quasi-experimental procedures.
- Synthesized complex findings and code into actionable recommendations and implementable products.
- Presented research at international and national professional conferences.

Pardee RAND Graduate School **Santa Monica, CA**
Professor *01/2017 – 11/2025*

- Mentored graduate students and junior analysts on research projects and published scientific papers led by them.

University of Missouri, Columbia **Columbia, MO**
Assistant Professor (Dept. of Statistics) *07/2011 – 07/2013*

- Performed academic research and published in scientific journals.
- Taught undergraduate and graduate-level statistics courses.
- Published research in peer-reviewed journals and presented at international and national conferences.

National Institute of Statistical Sciences **Washington, DC**
Postdoctoral Fellow *06/2009 – 06/2011*

- Managed a research project funded by the US Department of Agriculture and therein developed an algorithm for imputation of missing data in a large, complex, and high dimensional survey (the Agricultural Resource Management Survey)—the resulting procedure has been operationalized by the USDA.
- Collaborated with academic faculty, graduate students, and government statisticians and economists.
- Demonstrated the large improvement in performance of the new algorithm over the previous procedure.

Education

Clemson University **Clemson, SC**
Ph.D. in Mathematical Sciences
Master of Science in Mathematical Sciences

Duke University **Durham, NC**
Bachelor of Science in Mathematics
Bachelor of Science in Economics

Selected Projects

Medicare Disenrollment Reasons Survey *2021–2025*

- Designed and implemented an innovative sampling strategy for a large survey of disenrollees from Medicare plans that simultaneously optimizes statistical efficiency for estimation within hundreds of individual plans and within national demographic subgroups.
- Addressed the complication of having to sample disenrollees monthly for reports that are produced annually, which required innovative techniques for estimation of future disenrollment counts and response rates.

A Multi-Phase Survey Strategy for Obtaining Representativeness of Big Data *2019–2024*

- Created a method for estimating demographic characteristics of social media users based on their posts.
- Pioneered procedures for using fine-tuned LLMs to gauge sentiment expressed in large-scale text corpora.
- Administered a general population survey and a survey of Twitter users.
- Developed real-time estimates of nationally representative sentiment of political candidates using only opinions expressed on social media by weighting a universe of Twitter users.

Data Fusion for Predicting Long-Term Program Impacts *2019–2022*

- Developed a method that fuses multiple datasets to enable statistical estimation of the long-term effects of an intervention using short-term data.
- Used the method to estimate the effect of winning the Oregon Health Insurance Lottery on mortality.

Skills

- **Programming**: R, Python, SAS, Stata, C++, SQL, HTML, LaTeX.
- **Managerial**: Project leadership and management, Mentoring, Teaching.
- **Methodological**: Statistical analysis, Causal inference, Machine learning, Generative AI, Survey methodology, Nonprobability methods, Missing data analysis, Bayesian estimation, Time series analysis, Neural Networks, Forecasting.

Selected Publications

- Griswold, M., **Robbins, M.** & Pollard, M. (2025). Stay Tuned: Improving Sentiment Analysis and Stance Detection Using Large Language Models. *Political Analysis*.
- **Robbins, M.** & Burgette, L. (2025). Resampling methods with multiply imputed data. *Biometrika*.
- **Robbins, M.** *et al.* (2024). Data fusion for predicting long-term program impacts. *Statistics in Medicine*.
- **Robbins, M.** (2024). Joint imputation of general data. *Journal of Survey Statistics and Methodology*.
- **Robbins, M.** & Davenport, S. (2021). Microsynth: Synthetic control methods for disaggregated and micro-level data in R. *Journal of Statistical Software*.
- **Robbins, M.** *et al.* (2021). Blending probability and nonprobability samples with applications to a survey of military caregivers. *Journal of Survey Statistics and Methodology*.
- **Robbins, M.** *et al.* (2017). A framework for synthetic control methods with high-dimensional, micro-level data: Evaluating a neighborhood-specific crime intervention. *Journal of the American Statistical Association*.
- **Robbins, M.** & Fisher, T. (2015). Cross-correlation matrices for tests of independence and causality between two multivariate time series. *Journal of Business & Economic Statistics*.
- See personal website or Google Scholar for a complete list of publications.

Software

- R package microsynth for disaggregated synthetic control estimation.
- R package gerbil for efficient joint imputation of general data.