ZACHARY REWOLINSKI

zachrewolinski@berkeley.edu | www.zachrewolinski.com

Last Updated September 2025

EDUCATION

University of California - Berkeley, Berkeley, CA — Expected May 2028
Doctor of Philosophy (PhD), Statistics — *GPA: 3.97/4.0*
Supported by NSF Graduate Research Fellowship

Rice University, Houston, TX — May 2023
B.S. Statistics
B.S. Computer Science, Specialization in Machine Learning
B.A. Mathematics
Distinction in Research & Creative Work

RESEARCH EXPERIENCE

Graduate Student Researcher — January 2024 - Present
Yu Group, University of California, Berkeley

- Collaborated with a multidisciplinary team of researchers to create a novel framework for local feature importance in tree-based methods.
- Developed a workflow that systematically integrates uncertainty quantification and stability checks throughout the data-science life cycle to improve replicability and trustworthiness.

Undergraduate Researcher — January 2021 - August 2023
Statistical Machine Learning Group, Rice University, Houston, TX
Advisor: Dr. Genevera Allen

- Established a novel class of fair, interpretable, and robust statistical machine learning algorithms designed to mitigate bias present in supervised learning tasks with protected attributes
- Developed a novel tensor completion approach for imputing neuronal data from multiple recordings, resulting in an IEEE publication
- Evaluated probabilistic graphical models and community detection algorithms applied to neuronal datasets in collaboration with cross-disciplinary researchers at Rice University and Baylor College of Medicine

Research Assistant — May 2020 - January 2021
D2K Lab, Rice University, Houston, TX
Advisors: Dr. Daniel Kowal & Dr. Daniel Cohan

- Analyzed power plant emissions and electricity demand in R and Python to understand the impacts of COVID-19 and related response policies on the energy usage of each sector
- Applied additive models and other statistical techniques to over 4.6 million rows of data to inspect pollutant levels and discern if 2020 strayed from the historical baseline
- Assisted a cross-departmental team of professors and students in creating multiple conference presentations

This work was funded through a Rice RECODE Fellowship.

PREPRINTS, PUBLICATIONS, AND PRESENTATIONS

Z. Rewolinski, B. Yu, "PCS Workflow for Veridical Data Science in the Age of AI", arXiv:2508.00835, 2025+

Z. Liang*, **Z. Rewolinski***, A. Agarwal, T. Tang, B. Yu, "Local MDI+: Local Feature Importances for

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Tree-Based Models", arXiv:2506.08928, 2025+

L. Zheng, **Z. Rewolinski**, G. I. Allen, "A Low-rank Tensor Completion Approach for Imputing Functional Neuronal Data from Multiple Recordings", *IEEE Data Science & Learning Workshop (DSLW),* May 2022.

D. Cohan, D. Kowal, Y. Choi*, J. Li*, H. Louh*, R. MacDonald*, G. Meriano*, A. Nguyen*, L. Niu*, **Z. Rewolinski***, "Responses of human activity and in-situ and satellite-observed air quality in U.S. cities to the COVID pandemic", *American Geophysical Union (AGU) Fall Meeting*, December 2020. Oral presentation.

Z. Rewolinski, J. Li*, A. Nguyen*, D. Cohan, D. Kowal, "Impacts of COVID-19 Pandemic on Activity and Emissions", *Community Modeling and Analysis Systems (CMAS) Conference*, October 2020. Oral presentation.

Y. Choi, H. Louh, D. Cohan, D. Kowal, **Z. Rewolinski**, A. Nguyen, J. Li, A. Dayan, A. Abbott, "COVID-19 Policy Impacts on NO2, Ozone, and PM2.5 Levels in U.S. Cities", *American Meteorological Society (AMS) Annual Meeting*, January 2021. Poster presentation.

H. Louh, Y. Choi, J. Li*, A. Nguyen*, **Z. Rewolinski***, D. Kowal, D. Cohan "COVID-19 Policy Impacts on NO2, Ozone, and PM2.5 Levels in U.S. Cities", *American Geophysical Union (AGU) Fall Meeting*, December 2020. Poster presentation.

Z. Rewolinski, "An Analysis of the Relationship Between Pitcher Size and UCL Tears", *Society for American Baseball Research (SABR) National Convention*, June 2019. Poster presentation.

TEACHING EXPERIENCE

Graduate Student Instructor
UC Berkeley Statistics Department, Berkeley, CA
STAT 214 - Data Analysis and Machine Learning for Real-World Decision Making — Spring 2025

- Assist in curriculum development of a new masters-level statistics course
- Lead lab sessions and assignments

Graduate Student Instructor
UC Berkeley Statistics Department, Berkeley, CA
STAT 133 - Concepts in Computing with Data — Spring 2024

- Teach programming concepts in R to 70 students in section meetings
- Guide students through in-class assignments

Teaching Assistant
Rice D2K Lab, Houston, TX
DSCI 101 - Introduction to Data Science — Spring 2023

- Guide 10 students through data science activities in Python during class
- Grade all homeworks and assignments

Grader
Rice Department of Statistics, Houston, TX
STAT 411 - Advanced Statistical Methods — Spring 2023

- Grade all homeworks and assignments

Teaching Assistant

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Rice Department of Electrical and Computer Engineering, Houston, TX
ELEC 478/578 - Introduction to Machine Learning — Fall 2022

- Hold review sessions on material adjacent to lectures
- Grade homeworks, projects, and exams

Grader
Rice Department of Statistics, Houston, TX
STAT 425 - Introduction to Bayesian Inference — Fall 2022

- Grade all homeworks and assignments

Teaching Assistant
Rice Department of Computer Science, Houston, TX
COMP 140 - Computational Thinking — Fall 2020, Spring 2021, Spring 2022

- Guided 24 students through Python programming activities by serving as their point of contact during class
- Supported student success by holding weekly office hours for 300+ students

HONORS AND AWARDS

- **NSF Graduate Research Fellow**, National Science Foundation — May 2023-Present
- **Outstanding Senior Capstone Award,** Rice Department of Statistics — April 2023
- **Rice Undergraduate Scholar**, Rice Office of Undergraduate Research and Inquiry — April 2022
- **1st Place Overall**, Rice Datathon — January 2022
- **Best Social Impact Project**, Rice Datathon — January 2022
- **CMMRS Pre-Doctoral Scholar**, Cornell, Maryland, and Max Planck Institute — August 2021
- **RECODE Fellow**, Rice University — May 2020
- **Best Poster Award**, Society for American Baseball Research — June 2019

INDUSTRY EXPERIENCE

Baseball Research & Development Intern — June 2025 - August 2025
San Diego Padres, San Diego, CA

- Built a statistical model for projecting player performance, integrating historical data and advanced metrics to support decision-making in roster construction and player evaluation.
- Led internal education initiatives for the R&D team, including teaching classes on various topics in statistics, such as Bayesian modeling and causal inference.

Team Lead, Baseball Analytics — January 2021 - December 2021
Rice Baseball Analytics, Houston, TX

- Led a team of student-analysts in completing research projects inspired by coaches, players, or staff members
- Created team-tailored software that expedites the production of standardized reports for player development
- Spearheaded the creation of advance scouting reports and postgame reports, incorporating technology such as TrackMan, Motus, Rapsodo, and Synergy

Data Science Intern — May 2021- August 2021
Principal Financial Group, Des Moines, IA

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- Built a multi-factor 'engagement score' with ensemble learning to help track the retirement savings of over five million plan participants and diagnose which of these plan participants have high potential for an increase in deferral amounts
- Formulated a 'target audience' of financial advisors to optimize email campaigns and lead generation by analyzing more than one million advisors and their sales opportunities in R, Python, & PowerBI
- Evaluated sales content and integrated data from a 3rd-party source into company SalesForce records, assisting the content team in packaging the 'most effective' presentations for sales representatives to share with prospective clients

Data Science Intern June 2020 - August 2020

January Advisors, Houston, TX

- Planned and led a project which quantified the risk of COVID-19 exposure associated with reopening Texas child care centers
- Wrangled, cleaned, geocoded, and analyzed geospatial data from over 13,000 Texas child care facilities to find that minority child care providers had disproportionately high levels of COVID-19 risk
- Created an interactive map in R which displays COVID-19 risk in Texas child care centers at the county level

SKILLS

Programming: R, Python, SQL, Java, C, MATLAB, HTML, CSS, Stan, JavaScript

Technologies: Pandas, Shiny, TensorFlow, PyTorch, Tableau, NumPy, Git, LaTeX, DataJoint, Jupyter, Excel, AWS, Flask, PowerBI, Hadoop