

# SCOTT POWERS

saberpowers.github.io

## ACADEMIC EXPERIENCE

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**Rice University** 2023–  
Assistant Professor of Sport Analytics and (by courtesy) of Statistics

## SPORTS EXPERIENCE

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### FULL-TIME

**Houston Astros** 2022  
Assistant General Manager

**Los Angeles Dodgers** 2017–2021  
Director, Quantitative Analysis  
Senior Analyst, Research & Development 2019–2021  
2017–2018

### PART-TIME/CONSULTING

**Teamworks** (formerly Zelus Analytics) 2020, 2023–  
Staff Data Scientist 2023–  
Senior Data Scientist 2020

**AZ Alkmaar** 2015–2020  
Data Analyst

**Oakland Athletics** 2015–2016  
Analytics Consultant

## EDUCATION

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**Stanford University** 2017  
Ph.D. Statistics  
Advisor: Rob Tibshirani

**University of Chicago** 2013  
M.S. Statistics

**University of North Carolina at Chapel Hill** 2011  
B.S. Mathematical Decision Sciences and Mathematics  
*Highest Honors from the Department and Highest Distinction from the University*

## RESEARCH

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### WORKING PAPERS

**Powers, Yurko R**  
“Swinging, Fast and Slow: Interpreting variation in baseball swing tracking metrics”  
*arXiv:2507.01238*

Zhu R, Love D, **Powers**

“Ball path curvature and in-game free throw shooting proficiency in the National Basketball Association”  
*arXiv:2507.01238*

Millington E, **Powers**

“A comps-based approach for interpreting tree-based predictions with an application to the NFL draft”

Hahn J, **Powers**, Ramani S, Schaefer A

“The Two-Foot Rule: A game theoretic analysis of the pickoff limit in Major League Baseball”

**Powers**, Iglesias V

“Pitch trajectory density estimation for predicting future outcomes”

## JOURNAL ARTICLES

**Powers**, Stancil L, Consiglio N (2025)

“Estimating individual contributions to team success in women’s college volleyball”  
*Journal of Quantitative Analysis in Sports* **21**(2) 117–135

Burton T, **Powers**, Burns C, Conway G, Leach F, Senecal K (2023)

“A data-driven greenhouse gas emission rate analysis for vehicle comparisons”  
*SAE International Journal of Electrified Vehicles* **12**(1)

**Powers**, McGuire V, Bernstein L, Canchola AJ, Whittemore AS (2019) “Evaluating disease prediction models using a cohort whose covariate distribution differs from that of the target population”

*Statistical Methods in Medical Research* **28**(1) 309–320

**Powers**, Hastie T, Tibshirani R (2018)

“Nuclear penalized multinomial regression with an application to predicting at bat outcomes in baseball”  
*Statistical Modelling* **18**(5–6) 388–410

**Powers**, Qian J, Jung K, Schuler A, Shah NH, Hastie T, Tibshirani R (2018)

“Some methods for heterogeneous treatment effect estimation in high dimensions”  
*Statistics in Medicine* **37**(11) 1767–1787

McGinnis L, **Powers**, Bangs D, Cherry A, Tibshirani R, Natkunam Y (2016)

“Double-hit diffuse large B-cell lymphomas with MYC gene rearrangements more commonly involve BCL2 than BCL6 gene rearrangements as the second hit: A large scale single institution study”

*Laboratory Investigation* **96** 362A

Burton T, **Powers** (2015)

“A linear model for estimating optimal service fraction in volleyball”

*Journal of Quantitative Analysis in Sports* **11** 117–129

**Powers**, Hastie T, Tibshirani R (2015)

“Customized training with an application to mass spectrometric imaging of cancer tissue”  
*The Annals of Applied Statistics* **9** 1709–1725

**Powers**, DeJongh M, Best AA, Tintle NL (2015)

“Cautions about the reliability of pairwise gene correlations based on expression data”

*Frontiers in Microbiology* **6** 650

**Powers**, Gopalakrishnan S, Tintle NL (2011)

“Assessing the impact of non-differential genotyping errors on rare variant tests of association”  
*Human Heredity* **72** 153–160

Saavedra S, Powers, McCotter T, Porter MA, Mucha PJ (2010)  
“Mutually-antagonistic interactions in baseball networks”  
*Physica A: Statistical Mechanics and its Applications* **389** 1131–1141

## INVITED CONFERENCE TALKS

“Winning baseball games by solving statistics puzzles” International Conference on Statistics and Data Science	Vancouver 2025
“Spotlighting under-the-radar performers in women’s college volleyball” MIT Sloan Sports Analytics Conference	Boston 2024
“Estimating individual contributions to team success in women’s college volleyball” New England Symposium on Statistics in Sports	Boston 2023

## INVITED DEPARTMENT SEMINARS

“Winning baseball games by solving statistics puzzles” Southern Methodist University, Department of Statistics and Data Science	Sep 2025
Johns Hopkins University, Department of Electrical and Computer Engineering	Sep 2025
“Player evaluation based on game performance” New York Knicks (National Basketball Association)	Nov 2024
TSG 1899 Hoffenheim (Bundesliga)	Apr 2024
“Nuclear penalized multinomial regression” Rice University, Department of Statistics	Apr 2023

## INVITED CONFERENCE PANELS

“The Past, Present, and Future of Sports Analytics in Industry and the Academy” Joint Statistical Meetings	Nashville 2025
“Data Science and Analytics in Sports Performance and Management” Columbia Symposium on AI and Sports	New York 2024

## CONTRIBUTED CONFERENCE TALKS

“Swinging, Fast and Slow: Untangling intention and timing error from bat speed and swing length” Cascadia Symposium on Statistics in Sports	Vancouver 2024
Saberseminar	Chicago 2024
“Pitch trajectory density estimation for predicting future outcomes” Conference of Texas Statisticians	Houston 2024
Saberseminar	Chicago 2023
“Jointly predicting exit velocity and launch angle for batter-pitcher matchups” Saberseminar	Boston 2016
“Nuclear penalized multinomial regression for predicting at bat outcomes in baseball” Joint Statistical Meetings	Chicago 2016

“True wOBA: Estimation of true talent level for batters”  
SABR Analytics Conference Phoenix 2016

“Rewarding batters for baserunner advancement: A ridge-regressed Rasch model”  
Saberseminar Boston 2015

## STUDENT CONFERENCE TALKS

“A comps-based approach for interpreting tree-based predictions with an application to the NFL draft”  
Elisabeth Millington @ Carnegie Mellon Sports Analytics Conference Pittsburgh 2025

“Ball path curvature and in-game free throw shooting proficiency in the National Basketball Association”  
Ruoqian (Judy) Zhu @ New England Symposium on Statistics in Sports Boston 2025

“The Two-Foot Rule: A game theoretic analysis of the pickoff limit in Major League Baseball”  
Jacob Hahn @ Cascadia Symposium on Statistics in Sports Vancouver 2024  
Jacob Hahn @ Saberseminar Chicago 2024

“Modifying  $k$ -means clustering to optimize positioning in volleyball”  
Naomi Consiglio @ Women in Sports Data Symposium Philadelphia 2024

“Do we learn more about AAA batters when they face better pitches?”  
Jeff Brover @ Saberseminar Chicago 2024

“Time warping for clustering pitcher deliveries”  
Drew Haugen @ Saberseminar Chicago 2024

## STUDENT CONFERENCE POSTERS

“A comps-based approach for interpreting tree-based predictions with an application to the NFL draft”  
Elisabeth Millington @ New England Symposium on Statistics in Sports Boston 2025

“A statistical approach to sport climbing difficulty and progression”  
Elizabeth Sepúlveda @ Cascadia Symposium on Statistics in Sports Vancouver 2024

“Not All Features Are Created Equal: Player clustering and evaluation”  
Andrew Kang @ Opta Forum London 2024

## FUNDING

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### EXTERNAL

**Major League Baseball Research Gift**  
“Identifying biomechanical risk factors for pitching injuries” PI: S Powers, \$50,000 2024–2025

### INTERNAL

**Rice University Creative Ventures Conference and Workshop Development**  
“Rice Soccer Analytics Conference” PI: S Powers, \$10,000 2024–2025

## TEACHING

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### Rice University

Instructor, \*SMGT 430: Introduction to Sport Analytics  
Instructor, \*SMGT 432: Soccer Analytics  
Instructor, \*SMGT 434: Football Analytics  
Instructor, \*SMGT 435: Baseball Analytics  
Instructor, STAT 699: Topics in Statistical Sciences

\* indicates a course I designed

Spring 2024; Fall 2024, 2025  
Fall 2023  
Fall 2025  
Spring 2024; Fall 2024, 2025  
Fall 2024, 2025

### Stanford University

Instructor, \*STATS 50: Mathematics of Sports  
TA, STATS 305A: Applied Statistics I  
TA, STATS 216: Introduction to Statistical Learning  
TA, STATS 202: Data Mining and Analysis  
TA, STATS 50: Mathematics of Sports

Spring 2016  
Fall 2016  
Winter 2014, Summer 2015, Winter 2017  
Fall 2013, Summer 2014  
Fall 2014

### University of Chicago

Instructor, STAT 23400: Statistical Models and Methods  
TA, STAT 22000: Statistical Methods and Applications

Spring 2013  
Fall 2011, Spring 2012, Fall 2012

## MENTORSHIP

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### Rice University

Principal Investigator, Sport Analytics Undergraduate Research Lab 2024–  
*Students/Alumni:* Jeff Brover, Naomi Consiglio, Lucca Ferraz, Jacob Hahn, Rahul Herrero, Elisabeth Millington, Zach Pool, Elizabeth Sepúlveda, Luke Stancil, Lou Zhou, Ruoqian (Judy) Zhu  
Coordinator, Sport Analytics Graduate Reading Group 2023–2024  
Coordinator, Big Data Bowl Support Group 2023

## SERVICE

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### To the Profession

Lead Organizer, American Soccer Insights Summit 2024–  
Associate Editor, SCORE Network 2024–  
Faculty Advisor, Sports Analytics Club Program 2023–2024

### Rice University

Faculty Associate, Wiess College 2024–  
Instructor, Statistical Training and Research Techniques at Rice University (School of Social Sciences) 2024  
Instructor, Owl Days Classroom Sampler (Office of Admission) 2024  
Speaker, Special Occasion Dinner (Friends of Fondren Library) 2024  
Speaker, Brains in a Bar (Association of Rice Alumni) 2024  
Member, University Committee for Faculty and Staff Benefits 2024

### Peer Review

*Journal of Quantitative Analysis in Sports* x4, *Journal of Sports Analytics* x2, *International Journal of Sports Science & Coaching* x1, *Journal of Sports Sciences* x1, *Experimental Physiology* x1, *Computer Methods in Biomechanics and Biomedical Engineering* x1, *Proceedings of the National Academy of Sciences* x1

## PROFESSIONAL DEVELOPMENT

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### Rice Center for Teaching Excellence

INSTILL Mini-Grant Program	2023–2025
Reading Group	2023–2025
Symposium on Teaching and Learning	2024
Workshop on Inclusive Teaching Strategies	2023

### Conferences Attended

Women in Sports Data Symposium	Philadelphia 2023, 2024
Minority Trailblazers in Sports Conference	Houston 2023

## AWARDS

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Graduate Research Fellowship, National Science Foundation	2011
McCormick Fellowship, University of Chicago	2011
Mathematical Decision Sciences Award, UNC Department of Statistics & Operations Research	2011
Student Speaker Award, Pi Mu Epsilon National Meetings	2010
National Merit Scholarship, National Merit Scholarship Corporation	2007
Jack Kavanagh Memorial Youth Baseball Research Award, SABR	2005, 2006, 2007

## ACTIVITIES

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Sports Analytics Club, Stanford University	2014–2017
Co-President	2015–2016
Intercollegiate Club Baseball, Stanford University	2013–2015
Intercollegiate Club Volleyball, Stanford University	2013–2016
Intercollegiate Club Volleyball, University of Chicago	2011–2013
Intercollegiate Club Volleyball, University of North Carolina at Chapel Hill	2007–2011
President	2008–2010