

# 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 2019-2021  
Senior Analyst, Research & Development 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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### PRE-PRINTS

**Powers S, Stancil L, Consiglio N**  
“Estimating individual contributions to team success in women’s college volleyball”  
to appear in *Journal of Quantitative Analysis in Sports*

## PUBLICATIONS

- Burton T, **Powers S**, 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 S**, 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 S**, 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 S**, 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 S**, 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 S** (2015)  
“A linear model for estimating optimal service fraction in volleyball”  
*Journal of Quantitative Analysis in Sports* **11** 117-129
- Powers S**, 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 S**, 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 S**, Gopalakrishnan S, Tintle NL (2011)  
“Assessing the impact of non-differential genotyping errors on rare variant tests of association”  
*Human Heredity* **72** 153-160
- Luedtke A, **Powers S**, Petersen A, Sitarik A, Bekmetjev A, Tintle NL (2011)  
“Evaluating methods for the analysis of rare variants in sequence data”  
*BMC Proceedings* **5** S119
- Petersen A, Sitarik A, Luedtke A, **Powers S**, Bekmetjev A, Tintle NL (2011)  
“Evaluating methods for combining rare variant data in pathway-based tests of genetic association”  
*BMC Proceedings* **5** S48
- Saavedra S, **Powers S**, McCotter T, Porter MA, Mucha PJ (2010)  
“Mutually-antagonistic interactions in baseball networks”  
*Physica A: Statistical Mechanics and its Applications* **389** 1131-1141

## INVITED TALKS

### **Cascadia Symposium on Statistics in Sports**

“Untangling intention and timing error from bat speed and swing length in MLB” Vancouver 2024

### **MIT Sloan Sports Analytics Conference**

“Spotlighting under-the-radar performers in women’s college volleyball” Boston 2024

### **New England Symposium on Statistics in Sports**

“Estimating individual contributions to team success in women’s college volleyball” Boston 2023

## CONTRIBUTED TALKS

### **Saberseminar**

“Untangling intention and timing error from bat speed and swing length” Chicago 2024

“Pitch trajectory density estimation for predicting future outcomes” Chicago 2023

“Jointly predicting exit velocity and launch angle for batter-pitcher matchups” Boston 2016

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

### **Conference of Texas Statisticians**

“Baseball pitch trajectory density estimation for predicting future pitcher outcomes” Houston 2024

### **Joint Statistical Meetings**

“Nuclear penalized multinomial regression for predicting at bat outcomes in baseball” Chicago 2016

### **SABR Analytics Conference**

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

## INVITED PANELS

### **Columbia Symposium on AI and Sports**

“Data Science and Analytics in Sports Performance and Management” New York 2024

## STUDENT TALKS

### **Cascadia Symposium on Statistics in Sports**

Jacob Hahn: “A game theoretic analysis of the pickoff limit in Major League Baseball” Vancouver 2024

### **Women in Sports Data Symposium**

Naomi Consiglio: “Modifying k-means clustering to optimize positioning in volleyball” Philadelphia 2024

### **Saberseminar**

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

Jacob Hahn: “A game theoretic analysis of the pickoff limit in Major League Baseball” Chicago 2024

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

## STUDENT POSTERS

### **Cascadia Symposium on Statistics in Sports**

Elizabeth Sepúlveda: “A statistical approach to sport climbing difficulty and progression” Vancouver 2024

### **Opta Forum**

Andrew Kang: “Not All Features Are Created Equal: Player clustering and evaluation” 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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\* indicates a course I designed

### Rice University

Instructor, \*SMGT 430: Introduction to Sport Analytics Spring 2024, Fall 2024

Instructor, \*SMGT 432: Soccer Analytics Fall 2023

Instructor, \*SMGT 435: Baseball Analytics Spring 2024, Fall 2024

### Stanford University

Instructor, \*STATS 50: Mathematics of Sports Spring 2016

TA, STATS 305A: Applied Statistics I Fall 2016

TA, STATS 216: Introduction to Statistical Learning Winter 2014, Summer 2015, Winter 2017

TA, STATS 202: Data Mining and Analysis Fall 2013, Summer 2014

TA, STATS 50: Mathematics of Sports Fall 2014

### University of Chicago

Instructor, STAT 23400: Statistical Models and Methods Spring 2013

TA, STAT 22000: Statistical Methods and Applications 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, Judy Zhu*

Coordinator, Sport Analytics Graduate Reading Group 2023-2024

Coordinator, Big Data Bowl Support Group 2023

## SERVICE

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### 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

### SCORE Network

Associate Editor 2024-

**Sports Analytics Club Program**

Faculty Advisor, Rio Rico High School (Rio Rico, AZ)

2023-2024

**Peer Review***Journal of Quantitative Analysis in Sports, Experimental Physiology***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 &amp; 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