

SCOTT POWERS

saberpowers.github.io

ACADEMIC EXPERIENCE

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

PRO SPORTS EXPERIENCE

FULL-TIME

Houston Astros 2022
Assistant General Manager

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

CONSULTING

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

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

TEACHING

* indicates a course for which I designed the curriculum

Rice University
Instructor, *SMGT 430: Introduction to Sport Analytics Spring 2024
Instructor, *SMGT 432: Soccer Analytics Fall 2023
Instructor, *SMGT 435: Baseball Analytics Spring 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

RESEARCH

CONFERENCE PRESENTATIONS

New England Symposium on Statistics in Sports

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

Saberseminar

“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

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

PUBLICATIONS

SPORTS

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

Burton T, **Powers S** (2015)

“A linear model for estimating optimal service fraction in volleyball”
Journal of Quantitative Analysis in Sports **11** 117-129

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

Powers S (2016)

“Toward a Probability Distribution over Batted-Ball Trajectories”
The Hardball Times (not peer reviewed)

Smith RL, **Powers S**, Cisewski J (2014)

“Qualifying Times for the Boston Marathon”
CHANCE (not peer reviewed)

NOT SPORTS

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, 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

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

SOFTWARE

PUBLISHED R PACKAGES (CRAN)

npmr: Nuclear Penalized Multinomial Regression
<https://cran.r-project.org/web/packages/npmr/index.html>

customizedTraining: Customized Training for Lasso and Elastic-Net Regularized Generalized Linear Models
<https://cran.r-project.org/web/packages/customizedTraining/index.html>

PUBLISHED RSHINY APPS

mRchmadness: NCAA Basketball Tournament Bracket Pool Submission Optimization
<https://saberpowers.shinyapps.io/mRchmadness>

AWARDS

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

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