

Ryan S. Brill

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EDUCATION

University of Pennsylvania

Philadelphia, PA

Ph.D. in Applied Mathematics and Computational Science

Aug. 2020 – Present (Expected May 2025)

- Thesis Advisor: Abraham J. Wyner

Wharton School, University of Pennsylvania

Philadelphia, PA

M.A. in Statistics

Aug. 2020 – May 2023

UC Berkeley

Berkeley, CA

B.A. in Mathematics (Honors) and Statistics with a minor in Computer Science

Aug. 2016 – May 2020

RESEARCH

Research interests: statistics, probability, machine learning, applications and case studies, statistics in sports.

Selected publications & working papers

- **Brill, RS**, Yurko, R, Wyner, AJ. “Analytics, have some humility: a statistical view of fourth down decision making.” (Conditionally) Accepted to *The American Statistician*, 2024. Paper at [arXiv:2311.03490](https://arxiv.org/abs/2311.03490). Talk at [NESSIS 2023](#) on [youtube](#).
- **Brill, RS** and Wyner, AJ. “Introducing Grid WAR: Rethinking WAR for Starting Pitchers.” *Journal of Quantitative Analysis in Sports*, 2024. Paper at [DOI:10.1515/jqas-2023-0095](https://doi.org/10.1515/jqas-2023-0095). Talk at [SABR 2024](#) on [youtube](#). Grid WAR standings at gridwar.xyz.
- **Brill, RS**, Wyner, AJ. “The Loser’s Curse Revisited: A Case Study of the Critical Role of Specifying a Utility Function.” *In submission*, 2024. Paper at [arXiv:2411.10400](https://arxiv.org/abs/2411.10400).
- **Brill, RS**, Yee, R, Deshpande, SK, Wyner, AJ. “Moving from Machine Learning to Statistics: the case of Expected Points in American football.” *In submission*, 2024. Paper at [arXiv:2409.04889](https://arxiv.org/abs/2409.04889).
- **Brill, RS**, Wyner AJ, Barnett IJ. “Entropy-Based Strategies for Multi-Bracket Pools.” *Entropy*, 2024. Paper at [DOI:10.3390/e26080615](https://doi.org/10.3390/e26080615).
- **Brill, RS**, Deshpande, SK, Wyner, AJ. “A Bayesian analysis of the time through the order penalty in baseball.” *Journal of Quantitative Analysis in Sports*, 2023. Paper at [DOI:10.1515/jqas-2023-0048](https://doi.org/10.1515/jqas-2023-0048).
- **Brill, RS**, Yurko, R, Wyner, AJ. “Exploring the difficulty of estimating win probability: a simulation study.” *In submission*, 2024. Paper at [arXiv:2406.16171](https://arxiv.org/abs/2406.16171).

EXPERIENCE

Quantitative Analysis Associate for the Los Angeles Dodgers (part-time)

Sept. 2024 - May 2025

Los Angeles Dodgers, Major League Baseball

Virtual

- During the final academic year of my Ph.D., I am working on a variety of research projects for the Dodgers’ head of quantitative analysis.

Wharton Sports Analytics Summer Research Lab

June & July of 2023 & 2024

University of Pennsylvania

Philadelphia, PA

- Led the summer lab,¹ an academic experience for undergraduates, for which I advised research projects and taught a statistical modeling course² covering regression, statistical inference, uncertainty quantification, shrinkage, Bayesian statistics, and machine learning. I grounded each concept using sports data examples.

Statistical Consultant for the Philadelphia Union

Feb. - April 2022

Philadelphia Union, Major League Soccer

Philadelphia, PA

- Developed a proprietary player evaluation metric for this Major League Soccer team.

Finalist: NFL Big Data Bowl 2022

Dec. 2021 - Feb. 2022

Kaggle & the National Football League

- Won \$15000 in this Kaggle competition run by the NFL for our project “Optimal Run Path for Kick Returners”.

Research in Industrial Projects for Students (RIPS)

June 2019 – Aug. 2019

Institute for Mathematical Science at the National University of Singapore

Singapore, Singapore

- Explored the creation of a type-theoretic theorem-proving environment, similar to that of Coq, in Python with Nvidia and a team of students from the US, China, India, and Singapore.

¹<https://wsb.wharton.upenn.edu/sports-analytics-summer-research-lab/>

²https://ryansbrill.com/lab/lab_2024