Paul Sabin

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Experience

Senior Fellow & Lecturer, *The Wharton School, University of Pennsylvania*

Wharton Sports Analytics & Business Initiative   October 2023 to present

Lead initiatives in pushing Sports Analytics forward via student and faculty projects in sports analytics. Advised on Sports Analytics projects across multiple sports.

Wharton Department of Statistics & Data Science   Jan. 2024 to present

Teach undergraduate and PhD level courses in Bayesian statistics, MBA class in machine learning, and introductory statistics undergraduate course.

President, *Sabin Ventures LLC*

Sports Analytics Consultant   Jan 2021 to present

Senior Advisor to Cleat Street LLC, a sports Betting company on improving its statistical models.

Instructor at Athlyticz. Built an online course for learning R through sports analytics datasets and problems.

Advisor to a 2nd level European soccer club ownership group on getting started in using data & analytics in recruitment.

Built latent-skill projection system for minor league and major league players for MLB franchise.

Consulted on building a data infrastructure and decision making for a Division I college football team and athletic department.

Virginia Tech   *Blacksburg, VA*

Adjunct Professor   July 2021 to May 2024

Taught an undergraduate and graduate level class on sports analytics and research methodology.

VP Football Analytics, *SumerSports*   May 2022 to June 2023

Led a team of 8-10 Data Scientists working on the B2B NFL product. Participated in management meetings and high-level company decision making. Developed and implemented innovative data-driven strategies to improve football performance and player development. Identified and analyzed key performance indicators (KPIs) for NFL teams and provide recommendations for improvement based on data driven insights.

Conducted regular training sessions to educate team members on new data analytics techniques and tools. Collaborated with the CEO and senior management team to develop a long-term vision and strategy for the B2B department at SumerSports, aligning with the company's overall goals and objectives.

ESPN   *Bristol, CT*

Sr. Sports Data Scientist — February 2019 to May 2022

Responsible for several NFL, CFB, NBA, & CBB metrics that brought in millions of dollars of sponsorship revenue. Managed and trained junior staff as well revamped the hiring process by introducing an assessment for potential candidates. This effort added a quantitative approach to hiring that improved talent on the team and reduced hiring bias.

Developed new methodology that created first of its kind objective value metric for every player in both college football and the NFL. Presented this work to the top on-air football talent at ESPN and published simplified version to an academic journal.

Sports Analytics Specialist — December 2015 to February 2019

Responsibilities Was the lead on notable projects such as the college Basketball Power Index (BPI) and Strength of Record (SOR), NBA Draft prospect projections, TV ratings forecasts and optimization, fantasy soccer projections, college football Playoff Predictor, and college football player impact rating. Built and promoted predictive and descriptive models across Basketball, Football, Soccer, and Golf for ESPN. Authored articles and notes using analytics and statistical models for ESPN.com and TV Broadcasts.

Developed new innovative methods to incorporate 5 different data sources in NBA Draft models. Involved experts across college football to provide feedback to the CFB Playoff Predictor and worked to get buy-in across content.

Took the initiative to find improve an inefficiency in ESPN's scheduling of games by building models to predict TV ratings given specific teams and times in MLB, NCAAF, NBA, NFL, and NHL. Presented these findings to executive VP's and other senior business stake-holders.

Mentored and trained junior staff on the analytics team, including documentation of performance and assisting with performance review and training plans.

Completed nine-month Emerging Leaders Program in 2018 in the Stats and Information Group.

Virginia Bioinformatics Institute — *Arlington, VA*

Graduate Researcher — May 2015 to December 2015

Worked on big data problems as part of the Social & Decision Analytics Laboratory and collaborated with government and private institutions. Problems included evaluating quality of state government data, spatial modeling of government data, and simulation and optimization of supply-chain for P&G in Western Europe.

Central Intelligence Agency — *Langley, VA*

Graduate Fellow — May 2013 to August 2013

Worked on various projects using statistical models, clustering, and data mining in an effort to better inform policy makers.

BYU Broadcasting — *Provo, UT*

Marketing Statistician — January 2012 to June 2012

Responsibilities include writing code to build automated reports of Nieslen data across the 56 major TV markets. Analyzed the data and made recommendations on how to prioritize shows and the overall programming trends. Gave recommendations to ad-sales and marketing.

National Center for Health Statistics *(CDC)* — *Hyattsville, MD*

Intern, Mortality Statistics Branch — June 2011 to August 2011

Analyzed life expectancies on a county level across the United States. Built models to predict life expectancy in a county and evaluated published research on potentially decreasing life expectancies in many U.S. counties.

Education

PhD, statistics   Virginia Tech
- Dissertation: Multiscale Dirichlet Processes in Supply Chain Order Simulation
- Advisor: David M. Higdon

MS, statistics   Brigham Young University
- Project: Analysis of the NCAA Men's Final Four TV Audience
- Advisor: Scott D. Grimshaw

BS, statistics & French (double major)   Brigham Young University
- ACTFL Advanced High oral proficiency rating

Digital Articles

A list of published articles on ESPN.com and other platforms available at sabinanalytics.com/press.

Manuscripts

- Sabin, R. Paul (2021). "A Hierarchical Bayesian Plus-Minus Model for American Football." Journal of Quantitative Analysis in Sports. Volume 17, Issue 4, Pages 313-364. Nov 2021. `https://doi.org/10.1515/jqas-2020-0033`
- Sabin, R. Paul (2019) "Multiscale Dirichlet Processes in Supply Chain Order Simulation." (Doctoral Dissertation). Virginia Tech. `https://vtechworks.lib.vt.edu/handle/10919/89099`
- Pires, Bianica et al. (2017). In W Chan, A D'Ambrogio, and G Zacharewicz, N Mustafee, G Wainer, and E Page (Eds.)"A Bayesian Simulation Approach for Supply Chain Synchronization." Proceedings of the 2017 Winter Simulation Conference. Philadelphia PA: Last Resort Publishers. `https://ieeexplore.ieee.org/abstract/document/8247898`
- Grimshaw, Scott D., Sabin, R. Paul, and Willes, Keith M. (2013)."Analysis of the NCAA Men's Final Four TV Audience." Journal of Quantitative Analysis in Sports. Volume 9, Issue 2, Pages 115–126, June 2013. `https://www.degruyter.com/document/doi/10.1515/jqas-2013-0015/html`

Presentations

- "Technology and Tradition: Inside the NFL's Analytics Revolution", Linda Hall Library, June 2024, Kansas City, MO
- "Playing Catchup: Estimating Player & Positional Value in (American) Football", MIT Sloan Sports Analytics Conference, March 2020, Boston, MA
- "Estimating Player Value in Football Using Plus-Minus Models", Carnegie Mellon Sports Analytics Conference, November 2019, Pittsburgh, PA
- "Driving Business Decisions with Sports Analytics" MIT Sloan Sports Analytics Conference, February 2018, Boston, MA
- "Analysis of the NCAA Men's Final Four TV Audience" Spring Research Conference, Brigham Young University, March 2013, Provo, UT
- "Analysis of the NCAA Men's Final Four TV Audience" Joint Statistical Meetings, August 2013, Montréal, QC, Canada

Outreach

- *Chair*, *American Statistical Association* (ASA) Section on Statistics in Sports. 2022
- *Judge*, Interdisciplinary Contest in Modeling, Consortium for Mathematics and its Applications. 2020

- *President* Avon Ward Elders Quorum. Lead and direct church ministers (40-50 people) to all church members and the assigned spiritual leader for the males in the church congregation. 2021-2023.
- Volunteer Missionary for the Church of Jesus Christ of Latter-day Saints, Montréal, Canada. 2008-2009
  - Managed team of 20-30 other volunteers.

Journal Reviewer
- Journal of Quantitative Analysis in Sports (JQAS)
- Journal of Sports Analytics (JSA)
- Advances in Statistical Analysis (AStA)

Computer Languages
- Proficient with R, R Shiny, Stan, and SQL
- Experience with Python, SAS, and C++

Foreign Languages
- French (Professional Proficiency)

Teaching
University of Pennsylvania
- Stat 6130: Regression Analysis for Business
  - Fall 2024

- Stat 7010: Modern Data Mining: Advanced Regression
  - Fall 2024

- Stat 9270: Bayesian Statistical Theory & Methods
  - Spring 2024

- Stat 4420: Introduction to Bayesian Data Analysis
  - Spring 2024

Virginia Tech
- Stat 5984/4984: Sports Analytics & Research
  - Fall 2021, 2022
  - Spring 2024

Brigham Young University
- IS 590R: Special Topics - Applied Sports Analytics
  - Spring 2021

Awards

- Jean Dickenson Gibbons Statistics Award 2014
- Brigham Young Scholarship, 2010–2013
- Al Huber Scholarship 2010-2012
- Bonne Semence Scholarship 2011