Kushal Shah

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RESEARCH EXPERIENCE

Clustering Attacking Possessions to Value Different Play Styles for Soccer | May 2020 (On Going) | Thesis
- A machine learning approach to identify play style for different possessions in Soccer

A Poisson Betting Model with a Kelly Criterion Optimizer for European Football | May 2020 | GitHub Link
- This paper will be presented at the 2021 MIT Sloan Sports Analytics Conference.
- Created a betting model for European Football that made use of a Poisson Distribution, Random Forest and a Kelly Criterion Optimizer
- The model yielded a 119.48% profit overall.
- This paper was presented at the 2020 Midwest Sport Analytics Conference and Carnegie Mellon Sport Analytics Conference

Advanced Real Plus Minus for Soccer | May 2020 | GitHub Link
- Lead a project to create a metric that evaluated Premier League players accounting for the strength of opponents and teammates.
- The paper received an honorable mention at the 2020 CMSAC Reproducible Research Competition
- This paper was presented at the 2020 Midwest Sport Analytics Conference and Carnegie Mellon Sport Analytics Conference

Defining Offensive & Defensive College Basketball Player Positions | September 2020 | GitHub Link
- Lead a project that used Model-Based Clustering, Random Forests, and Logit Models to accurately define positions to maximize team success
- Predicted an overall 70% of games correctly for March Madness from 2008 to 2018
- This paper was presented at the 2020 Midwest Sport Analytics Conference and Carnegie Mellon Sport Analytics Conference

Trench Warfare: Creating and Analyzing Defining Defensive Line Positions | July 2020 | GitHub Link
- Redefined Defensive Line Positions with a Hierarchical Clustering and Random Forest approach
- Made use of a variety of methods, including a Ridge Regression, to analyze these redefined positions
- Received an honorable mention by Sports Info Solutions

WORK EXPERIENCE

Scouting Director | SU Women's Basketball
📍 *Syracuse, NY | Sept 2018 – Present*
- Lead a group of students to create detailed, data based, scouting reports for coaches

Founder and President | SU Soccer Analytics Club
Project Coordinator | SU Basketball Analytics Club
📍 *Syracuse, NY | Sept 2018 – Present*
- Conduct meetings and oversee a group of students to conduct data centric research projects related to soccer
- Founder of twitter account @CuseAnalytics and the Syracuse Sport Analytics Website as platforms to share student work
- Leading a research project to identify if "momentum" exists in the NBA and its impact.

Football Operations Game Research | XFL
📍 *Remote | October 2019 – March 2020*
- Analyzed NFL and XFL game film recording in game statistics and time related data to recognize the impact of rule changes

SKILLS

- Extremely Fluent in using R and R Studio
- Adept with the use of complex Machine Learning Modelling Techniques
- Proficient in using SQL and Python
- Expert in the use of Microsoft Office Applications
- Advanced experience with Tableau and Tableau Prep

EDUCATION AND HONORS

Masters of Science
Applied Data Science
Syracuse University
- Current GPA: 4.0
- Graduation: May 2022

Double Major; Bachelor of Science
Sport Analytics and Economics
Syracuse University
- Current GPA: 3.9
- Graduation: May 2021
- Founder's, Success, and Berlin Scholar
- Dean's List Fall 2018 – Present