BEN HOWELL

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EXPERIENCE

Texas Baseball – Baseball Analytics Intern; Austin, TX

August 2020 – Present

- Create and manage MySQL database of 10M+ rows of pitch-level data with a pipeline handling new data uploads
- Developed Pitch Classification model using XGBoost soft probability and pitcher-specific unsupervised clusters in Python
- Analyze opposing hitters for advance scouting reports (pitching staff's 2.93 ERA in 2021 was best in D1 Baseball)
- Automate scouting reports and postgame processes pairing Python scrapers and R reports using BATCH scripts
- Operate TrackMan, Rapsodo, Edgertronic cameras, and BATS software

San Diego Padres – Baseball Research & Development Intern

June 2021 - August 2021 & June 2022 - August 2022

- Modeled defensive contributions through detailed tracking data, using SQL and R scripts to develop three models
- Researched where defensive value is recognized and assigned for internal Wins Above Replacement metric
- Evaluated the defensive differences in value and difficulty across positions for internal positional adjustments
- Created R Shiny tool to explore Pitch Grades with a developmental focus, integrating existing models into reactive tool
- Monitored Hawkeye and TrackMan ball/player-tracking systems during in-game and workout operations

PUBLIC RESEARCH & PRESENTATIONS

fastRhockey – Premier Hockey Federation (PHF) R Package, part of the SportsDataverse

October 2021 - Present

- CRAN R package and scraper developed to further the public repository of women's hockey data, starting with the PHF
- Parses play-by-play data into actionable data and pulls additional box score and meta data for teams and players

Highway To The Danger Zone – 2022 Big Data Cup

March 2021

- Worked on a four-person team to develop a framework for evaluating power play tactics in women's hockey
- Used Minimum Spanning Tree and Logistic Regression to identify dangerous situations

Aging Curves in Women's Hockey: NWHL Edition – Women's Hockey Hockey Analytics Conference (WHKYHAC)

July 2021

- Presented research exploring how women's hockey players age and produced a framework for projecting future production
- Furthered pre-existing work and incorporated regression techniques to measure aging from other sports

How Do We Get There: Quantifying Pass Types and Their Value – 2021 Biq Data Cup

March 2021

- Placed 2nd at the 2021 Big Data Cup in the Student track with a written paper and video presentation
- Developed a framework for valuing the movements of skaters in the National Women's Hockey League (NWHL)

Modeling Plate Discipline from the KBO to MLB – Society for American Baseball (SABR) Analytics Conference

March 2021

- Analyzed how player tendencies change between professional leagues, using over 30,000 hand-tracked pitches
- Modeled BB% and K% through linear regression and K-Means Clustering methods in R
- Produced 13 in-depth player breakdowns (~3,000 words each) and reports on potential MLB prospects
 - o Data/insight used by the Seattle Mariners to sign Chris Flexen (2 years, \$4.75M in December 2020)
 - o Process was featured in "Finding Flexen" by Corey Brock on The Athletic

WNBA Player Archetypes and Clustering

January 2021

- Evaluated WNBA player archetypes using a Mixture Model and scraped data from Basketball-Reference
- Created R Shiny app to host stats, clusters, and graphical representations of players relative to each other

EDUCATION

The University of Texas at Austin

Bachelor of Science, Kinesiology, Sport Management Minor, Economics and Applied Statistical Modeling

May 2023

Overall GPA: 3.89

ADDITIONAL INFORMATION

Computer Skills: R, R Shiny, R Markdown, SQL (Postgre/MySQL), Python, Kinovea video-editing, BATS video software Certifications: Rapsodo Hitting, ProPlayAI Introduction to Pitching Biomechanics, Driveline Basics of Pitch Design Languages: Competent in French

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