IDENTIFYING UNDERVALUED BASEBALL CARDS IN A BOOMING MARKET

Hogan Byun

UNDERSTANDING THE PROBLEM

Sports Card Boom

Young Prospects: 1st Spike

Hall-of-Famers: 2nd Spike

Future HOFers: Next Wave??

Who Should You Buy?

Find established veterans with HOF-esque career trajectories

Find Undervalued Flagship RCs Using HOF Comparison*

* A player's flagship rookie card, in this case, refers to the player's "main" or most identifiable rookie

THE PROCESS - OSEMN

01

Obtain Data

02

Scrub Data

03

Explore Data

04

Modeling

05

Interpret

THE DATA

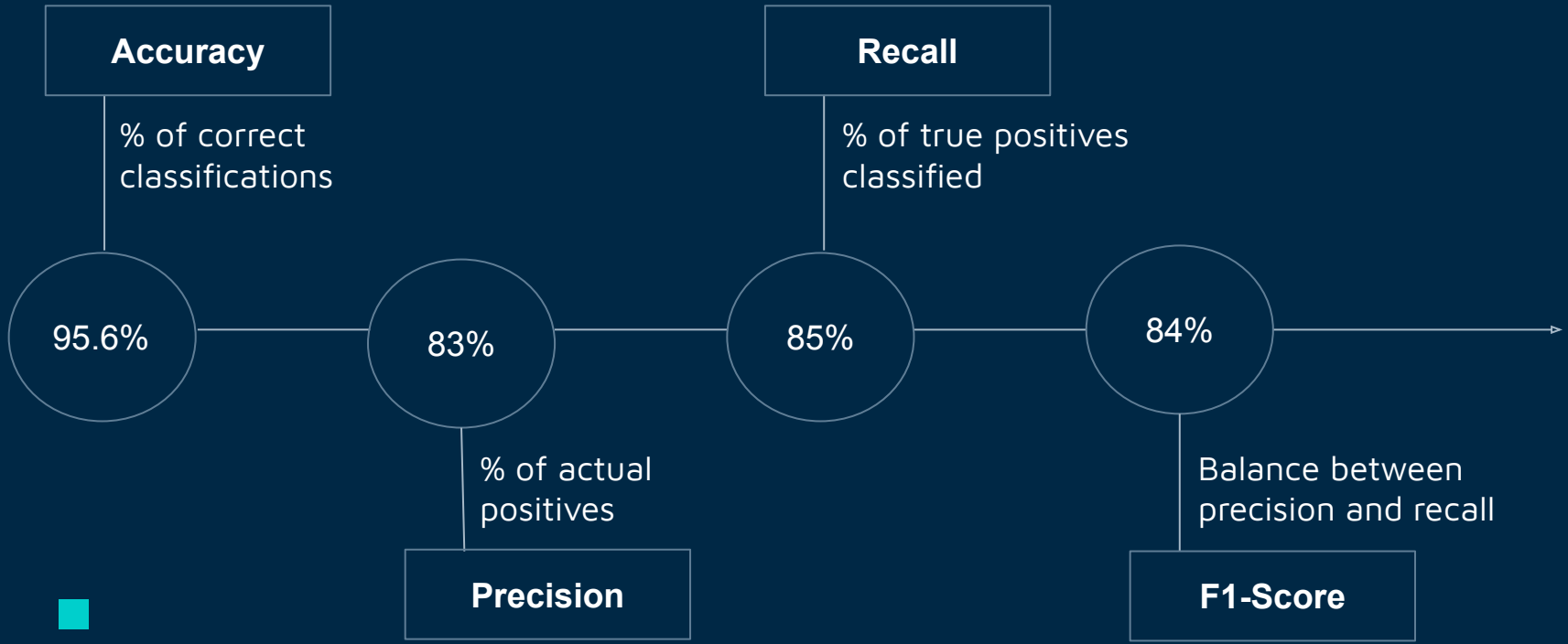
Obtained From Baseball Reference (Stat Head)

All Hall-of-Famers (197), Retired All-Stars (770), Active All-Stars (136)

1103 Total players

THE MODEL

XGBoost Model:

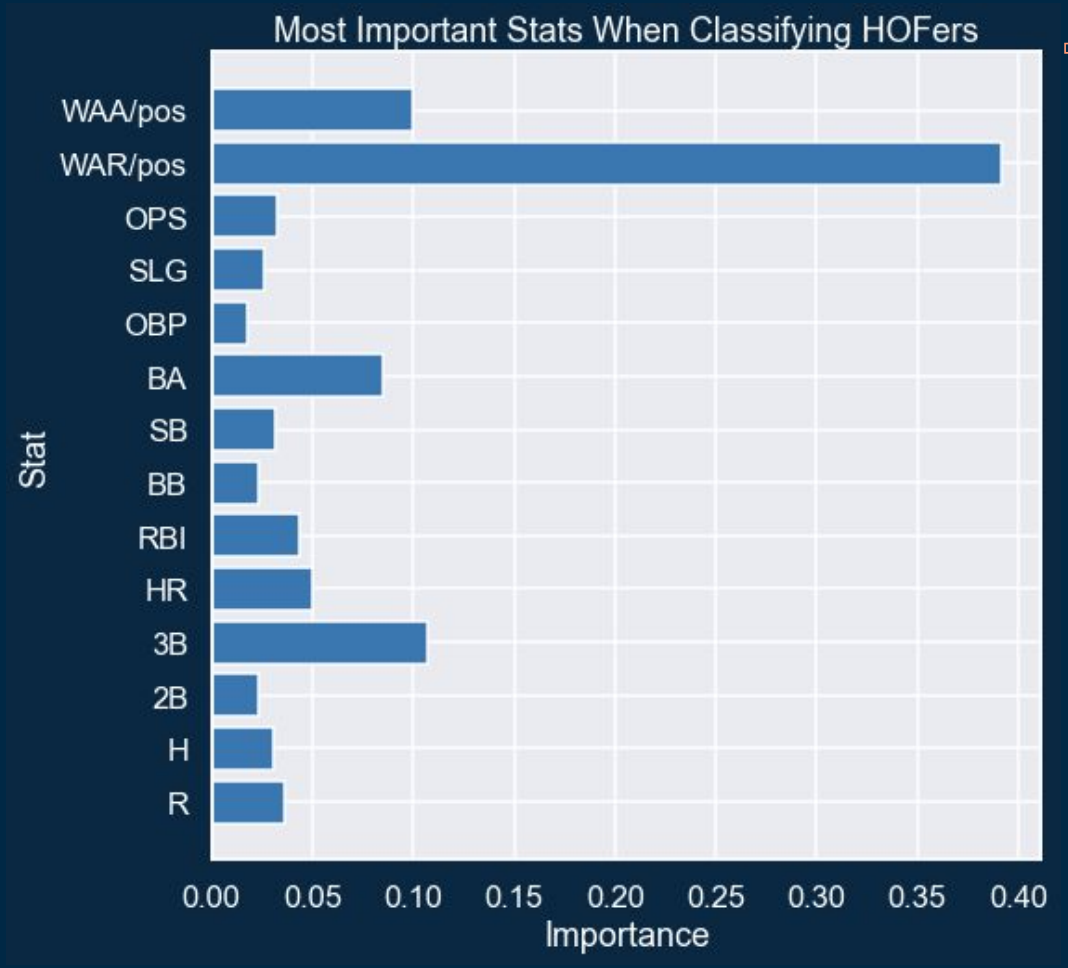


THE RESULTS

Which Stats are Most Important?

WAR/pos (Wins Above Replacement) is overwhelmingly most important

WAA/pos (Wins Above Average), **BA** (Batting Average), **3B** (Triples) are the three secondary stats



OUR RECOMMENDATIONS

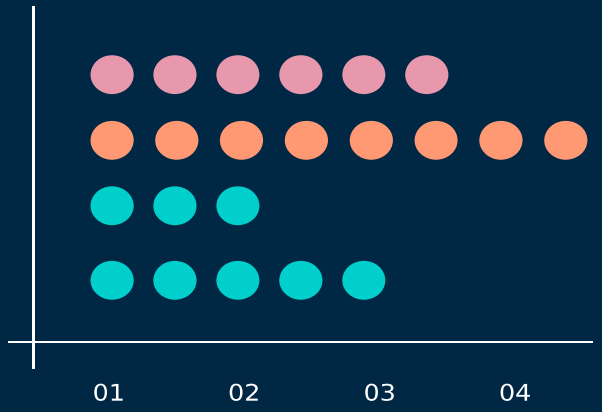
How we decided:

Project career numbers until average retirement age for each player

Predicted “Hall-of-Famers” using model

Identified undervalued players

Compared prices to HOF player with similar statistics



OUR RECOMMENDATIONS

*Average of last 3 eBay sales as of 2/12/2021

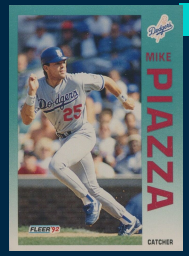
Trevor Story

2016 Topps Chrome
PSA 10
$80.52

ROI: 331%

Mike Piazza

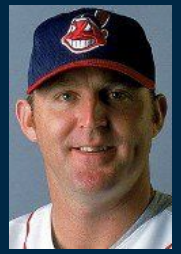
1992 Fleer PSA 10
$346.69



Pete Alonso

2019 Topps PSA 10
$47.20

ROI: 185%



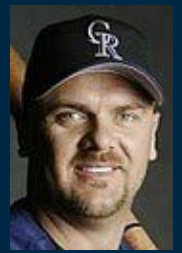
Jim Thome

1991 Bowman PSA 10
$135.16

Alex Bregman

2017 Topps PSA 10
$39.33

ROI: 236%



Larry Walker

1990 Leaf PSA 10
$132.33

FUTURE WORK

162-GAME DATA MODEL

Mapping projections based on average stats per full season

ERA-BASED MODEL

Accounts for changes to the game of baseball over the years

PITCHER MODEL

Previous model only concerned batting statistics

Do you have any questions?

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THANK YOU!

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