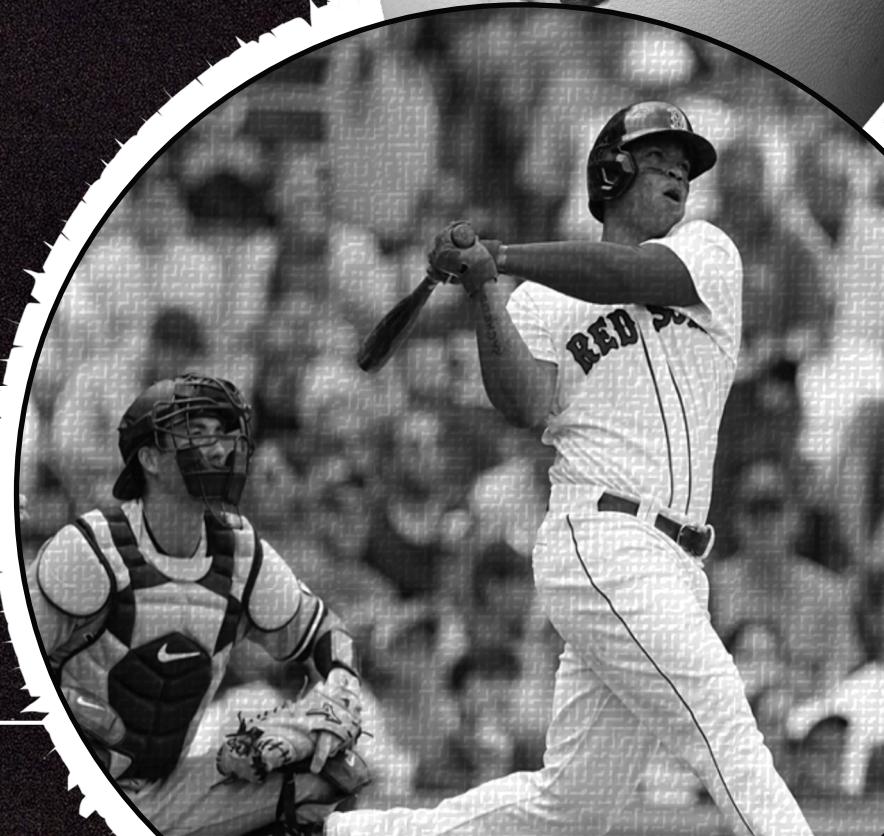


BASEBALL SCOUT

A Baseball Player
Recommendation System

By Ihza Gonzales



Baseball : A National Pastime

Past

- 1845 Cartwright wrote down the rules
- 1903 First World Series is Played

Present

- Red Sox vs. Yankees Game – 7.7 million viewers
- Around the world there is an estimated 500 million fans
- On average, each team generated 122 million in 2020

Problem Statement

- As MLB Executives & Managers, they are always scouting for players to join their team.
- Can we make a recommender system and with it the predicted stats and salary of recommended players?

Agenda



Web Scraping

1. Data

Voting Regressor

3. Predict Salary

Flask App

5. Recommender

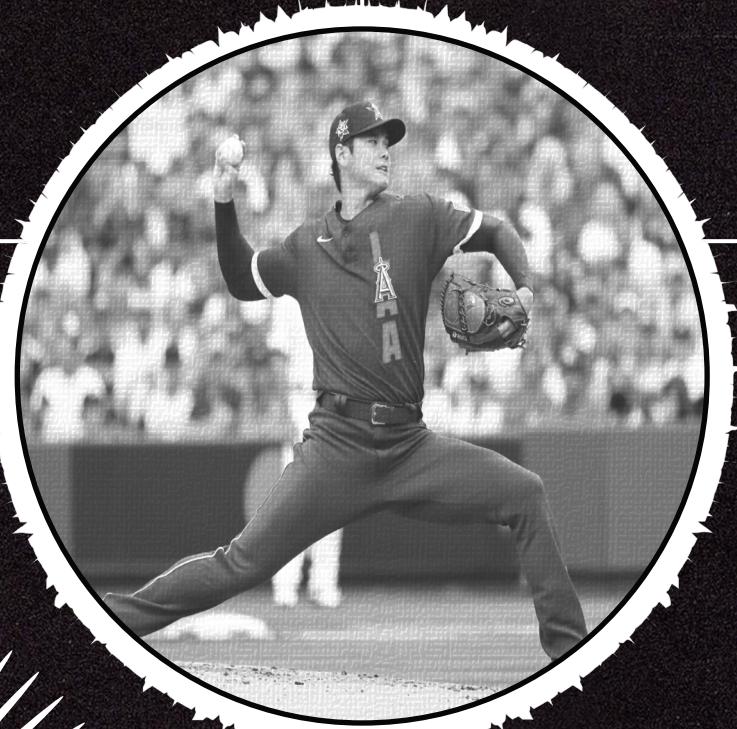


2. Forecast Stats

VAR Model

4. Clustering

K-Means



01

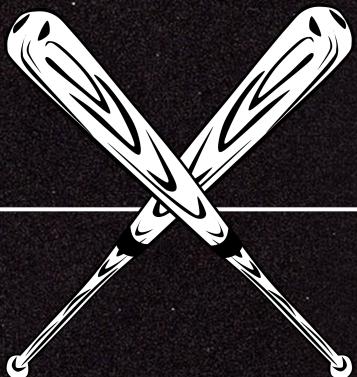
Data

Web Scraping

Data Collection

- Rotowire.com
- SeanLahmen.com
- Baseballsavant.mlb.com
- Spotrac.com

Data



BATTERS

393 Active Players
14 Statistics



PITCHERS

410 Active Players
10 Statistics

02

Forecasting Stats

Time Series:
VAR Model



Batter Evaluation

	PA	AB	R	H	2B	3B	HR
RMSE	1	1	1	1	1	1	1

	RBI	BB	SO	AVG	OBP	SLG	OPS
RMSE	1	1	1	0.035	0.026	0.055	0.080
	RBI	BB	SO	AVG	OBP	SLG	OPS

Pitcher Evaluation

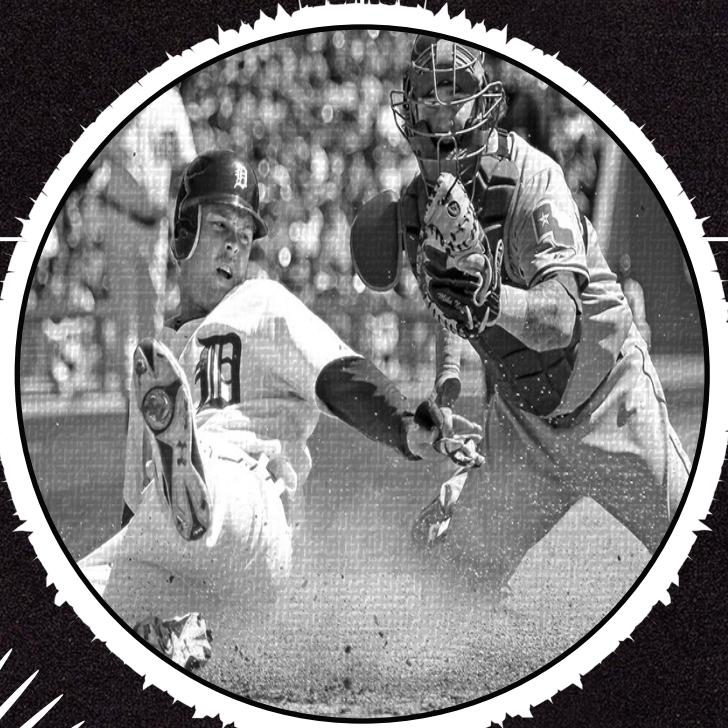
	W	L	ERA	IP	H
RMSE	1	0	0.29	2	2

	ER	HR	BB	SO	WHIP
RMSE	2	1	1	2	0.11
	ER	HR	BB	SO	WHIP

03

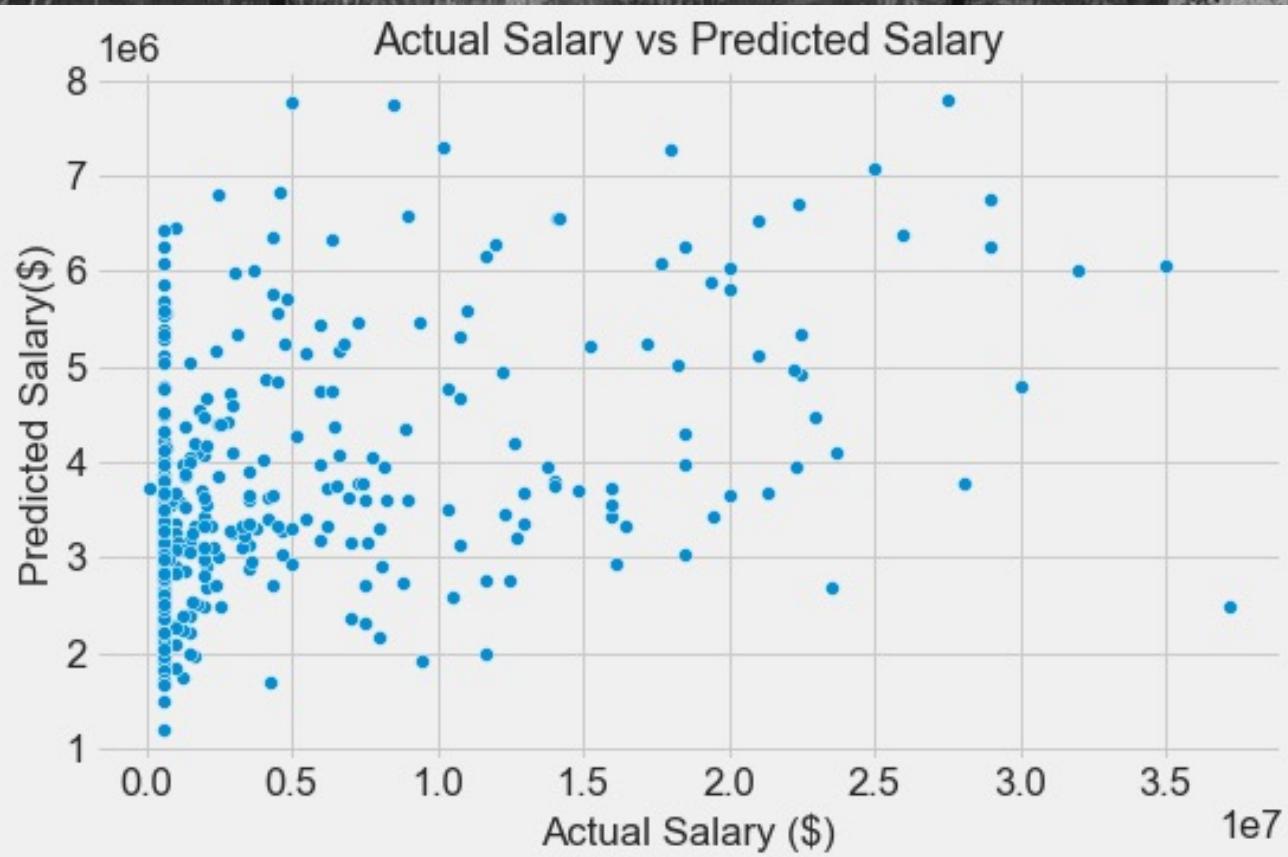
Predict Salary

Voting Regressor



Evaluation

	Train		Test
	R2	R2	RMSE
Batters	0.096	0.074	3,700,000
Pitchers	0.128	0.068	3,000,000



Batter Comparison



Pitcher Comparison

04

Clustering

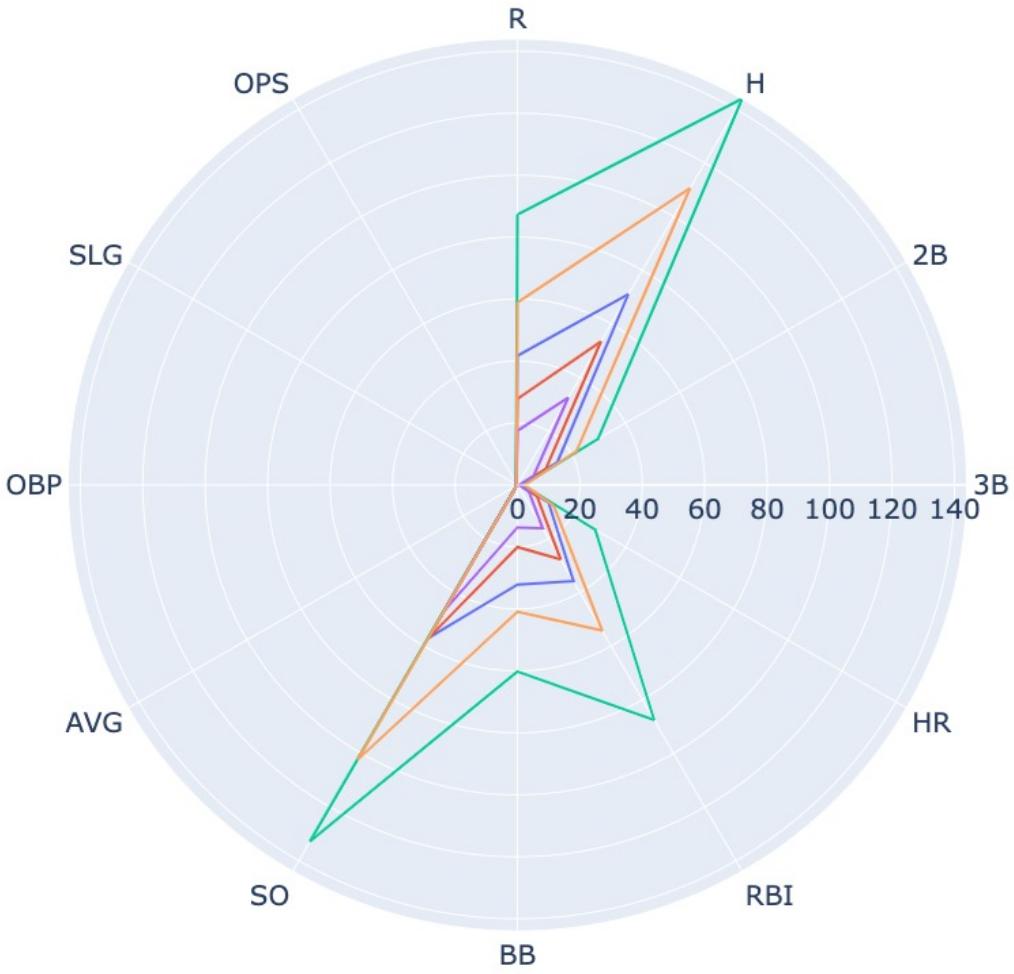
K-Means



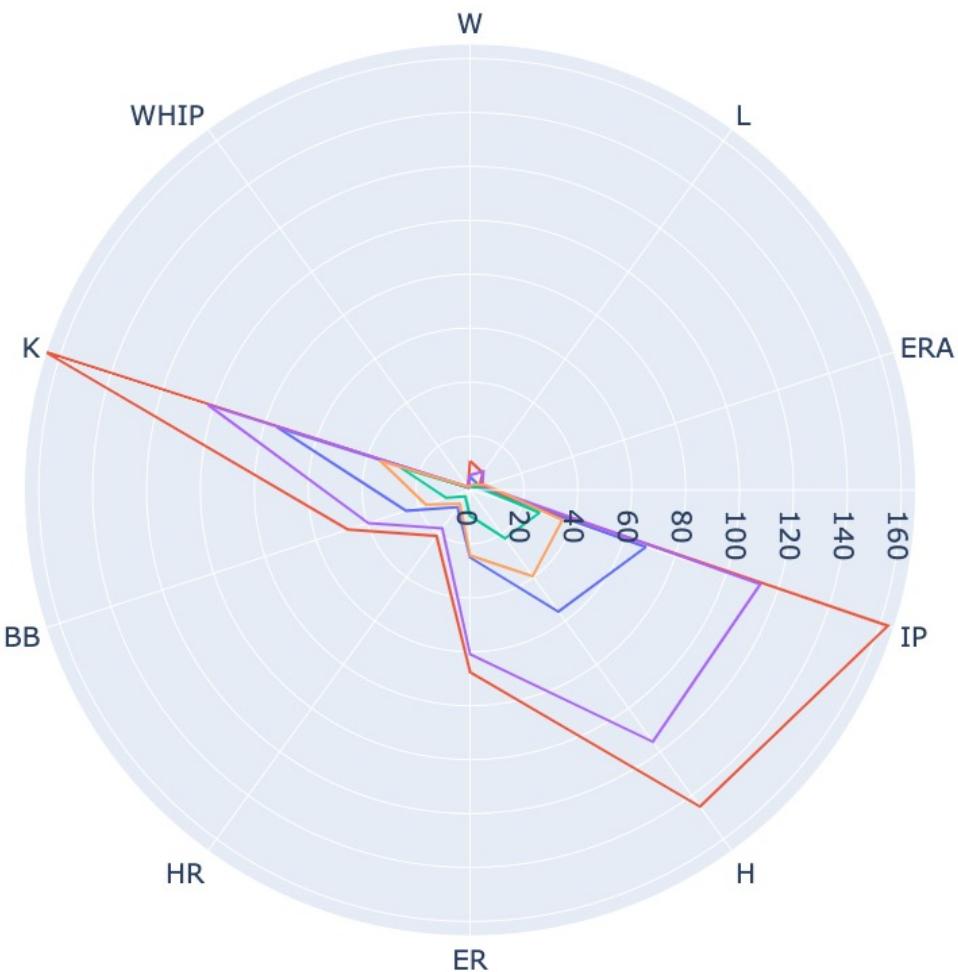
Evaluation

	Silhouette Score
Batters	0.225
Pitchers	0.276

Batter Clusters



Pitcher Clusters

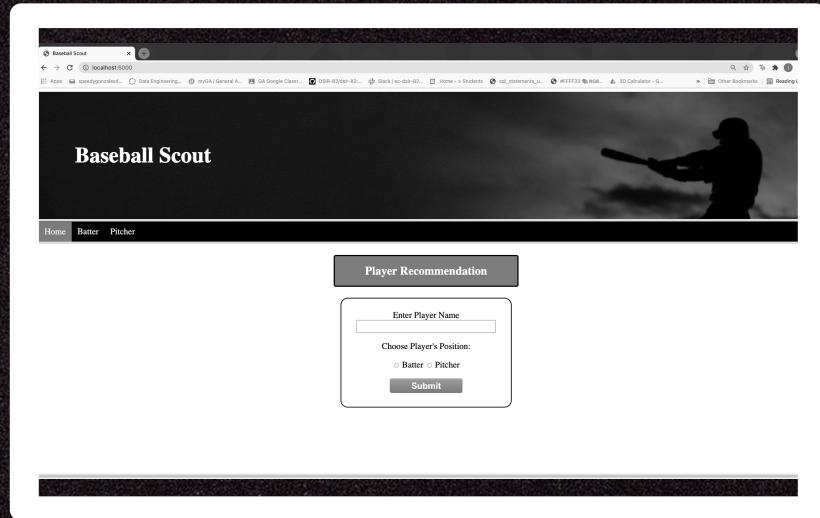


05

Recommender System

Content Based





Baseball Scout

Flask App

Conclusion

- Task:
 - Can we make a recommender system and with it the predicted stats and salary of recommended players?

Next Steps

- 1. Fix Data Collection
- 2. Incorporate Minor League/International
- 3. Automate the collection of Game data
- 4. Add more Stats

Thank You

“Baseball is a good thing. Always was, always will be.”
- Stephen King

THANK YOU!



DOES ANYONE HAVE ANY
QUESTIONS?

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