

# MLB Contract Analysis



By: Jackson Grienauer

GitHub: [https://github.com/jgrienauer/isba\\_4715\\_sql\\_project.git](https://github.com/jgrienauer/isba_4715_sql_project.git)

# Elevator Pitch



Are longer contracts worth it and what position should we spend our money on? This project aims to provide insights on how teams should utilize their bankroll and structure their teams.

# Job Description - Miami Marlins Analyst Fellowship



## **Role Overview:**

As a Baseball Analytics Fellow at the Miami Marlins, you will contribute to the strategic decision-making processes by leveraging your expertise in data analysis and statistical modeling. Working closely with our team of analysts and software engineers, you will delve into complex datasets to derive actionable insights that drive performance improvements for our team.

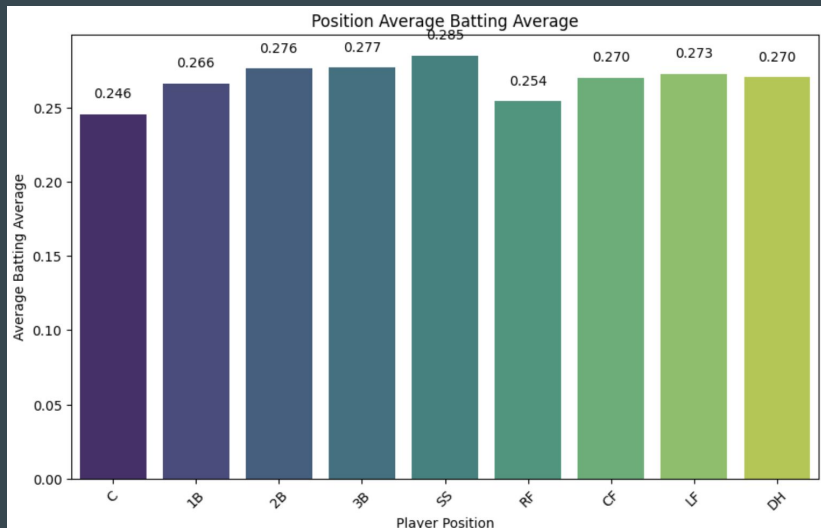
## **Key Responsibilities:**

- Conduct in-depth statistical research projects aimed at enhancing player evaluation, performance projections, strategic decision-making, and more.
- Collaborate across the organization to design and interpret statistical studies, ensuring alignment with organizational objectives.
- Assist in integrating the outputs of statistical analyses into our proprietary tools and applications, facilitating real-time decision support for baseball operations.
- Provide feedback to fellow team members, fostering a culture of collaboration and continuous learning within the department.
- Stay updated with advancements in baseball analytics and data science, actively contributing to the enhancement of our analytical capabilities.

API Data Source

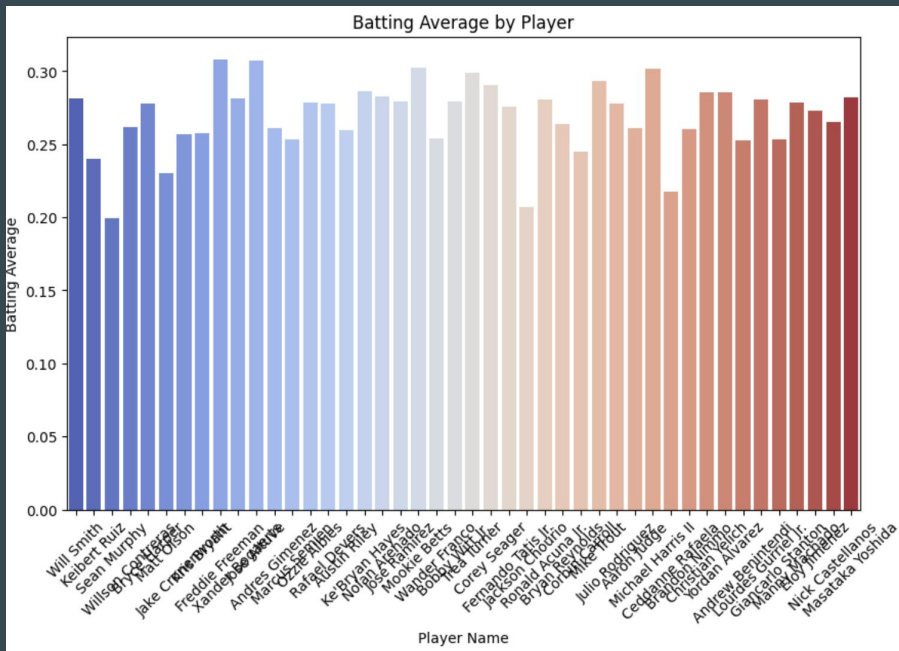
sp**o**rt radar

# Descriptive Query-Api



- Business Question: How does batting avg. compare between positions
- Insight: SS, 2B, 3B show highest avg.
- Recommendation: Target these positions if team is lacking offensive power
- Prediction: Improved team strategy

# Diagnostic Query-Api



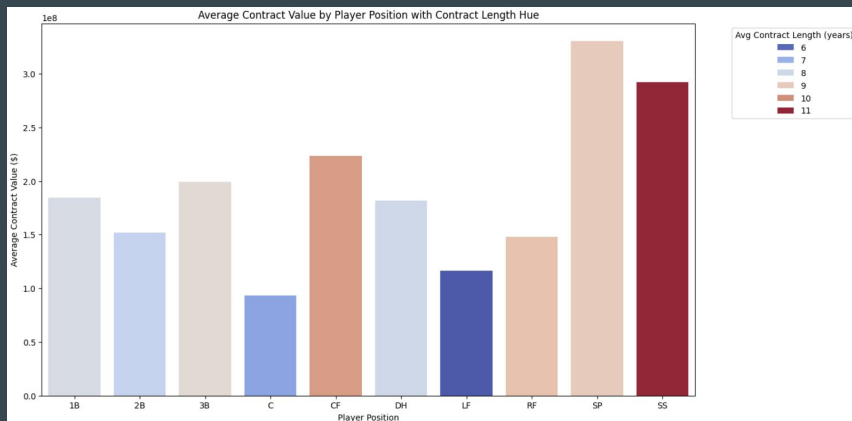
- Business Question: How do individual players compare to position averages?
- Insight: There is high variability among SS, CF, and C
- Recommendation: Target other position players with smaller contracts for less risk
- Prediction: Decreased risk to capital brought from large contracts

Web Scraping Source



spotrac

# Descriptive Query-Web Scrapping



- Business Question: Which positions have the longest/most expensive contracts
- Insight: SS, RF, SP, CF have the longest and SS, SP, RF, 3B have the most expensive
- Recommendation: Target other positions for less competition
- Prediction: Improved team strategy



# Diagnostic Query-Web Scrapping

	PlayerName	PlayerPosition	BattingAverage	ContractValue	\
0	Bryce Harper	1B	0.309	\$330,000,000	
1	Bryce Harper	1B	0.286	\$330,000,000	
2	Bryce Harper	1B	0.293	\$330,000,000	
3	Bryce Harper	1B	0.234	\$330,000,000	
4	Bryce Harper	1B	0.274	\$330,000,000	
..	...	...	...	...	
339	Wander Franco	SS	0.254	\$182,000,000	
340	Wander Franco	SS	0.263	\$182,000,000	
341	Wander Franco	SS	0.3	\$182,000,000	
342	Wander Franco	SS	0.281	\$182,000,000	
343	Wander Franco	SS	0.274	\$182,000,000	
	AvgPositionBattingAvg				
0	0.270083				
1	0.270083				
2	0.270083				
3	0.270083				
4	0.270083				
..	...				
339	0.289350				
340	0.289350				
341	0.289350				
342	0.289350				
343	0.289350				

- Business Question: How do player stats compare over the course of long contracts
- Insight: Wide variation but more seen in longer contracts
- Recommendation: Avoid signing longer contracts
- Prediction: Improved team strategy

# Conclusion



Avoid Signing Long Contracts



Avoid positions of high competition when signing long contracts