

# NBA TEAM PLAYOFF PERFORMANCE ANALYSIS



From : MOST VALUABLE CONSULTING  
By: Ziyuan Wang

To : General manager and player  
development department of all 30 NBA  
teams

# OVERVIEW

- Business Understanding
- Data
- Models
- Results
- Limitation
- Conclusion

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# BUSSINESS PROBLEM

Provide predictor for team general managers to make decision for that season and future.

# WHY THIS MODEL IMPORTANT?

Western Conference															
		W	L	PCT	GB	^	HOME	AWAY	DIV	CONF	PPG	OPP PPG	DIFF	STRK	L10
1	 Denver Nuggets	24	13	.649	-		14-3	10-10	7-3	18-9	116.4	114.5	+1.9	L1	7-3
2	 Memphis Grizzlies	23	13	.639	0.5		15-3	8-10	4-2	11-10	115.4	111.1	+4.3	W3	6-4
3	 New Orleans Pelicans	23	14	.622	1		16-4	7-10	6-2	15-9	117.4	113.0	+4.4	L2	5-5
4	 Dallas Mavericks	22	16	.579	2.5		15-5	7-11	5-2	16-6	112.6	110.3	+2.3	W7	8-2
5	 Sacramento Kings	19	16	.543	4		11-7	8-9	4-4	8-8	118.0	116.7	+1.3	L1	5-5
6	 LA Clippers	21	18	.538	4		11-8	10-10	3-4	11-11	109.5	109.4	+0.1	L3	5-5
7	 Portland Trail Blazers	19	17	.528	4.5		9-6	10-11	4-5	13-12	112.9	112.0	+0.9	W1	5-5
8	 Phoenix Suns	20	18	.526	4.5		14-5	6-13	7-0	17-10	114.2	111.7	+2.5	L3	4-6
9	 Golden State Warriors	20	18	.526	4.5		17-2	3-16	4-3	12-8	117.1	117.5	-0.4	W5	6-4
10	 Utah Jazz	19	20	.487	6		12-6	7-14	3-4	15-12	117.3	116.6	+0.7	L4	4-6
	 Minnesota Timberwolves	17	21	.447	7.5		10-9	7-12	5-4	10-13	114.7	115.8	-1.1	W1	4-6
	 Los Angeles Lakers	16	21	.432	8		8-8	8-13	0-7	7-13	116.1	117.6	-1.5	W2	5-5
	 Oklahoma City Thunder	15	21	.417	8.5		10-9	5-12	3-6	9-12	115.2	116.8	-1.6	L2	4-6
	 San Antonio Spurs	12	25	.324	12		7-13	5-12	2-5	5-20	111.6	121.0	-9.4	L2	3-7
	 Houston Rockets	10	27	.270	14		6-12	4-15	1-7	5-19	109.3	115.7	-6.4	L4	1-9

# DATA AND METHODS

## DATA SOURCES:

- ESPN
- Basketball Reference:  
<https://www.basketball-reference.com/>
- Average stats vs Advanced stats

## METHODS:

- Input team result manually
- Merged datasets
- Filtered out "bad" data: Covid Season
- Modeling



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# MODELS

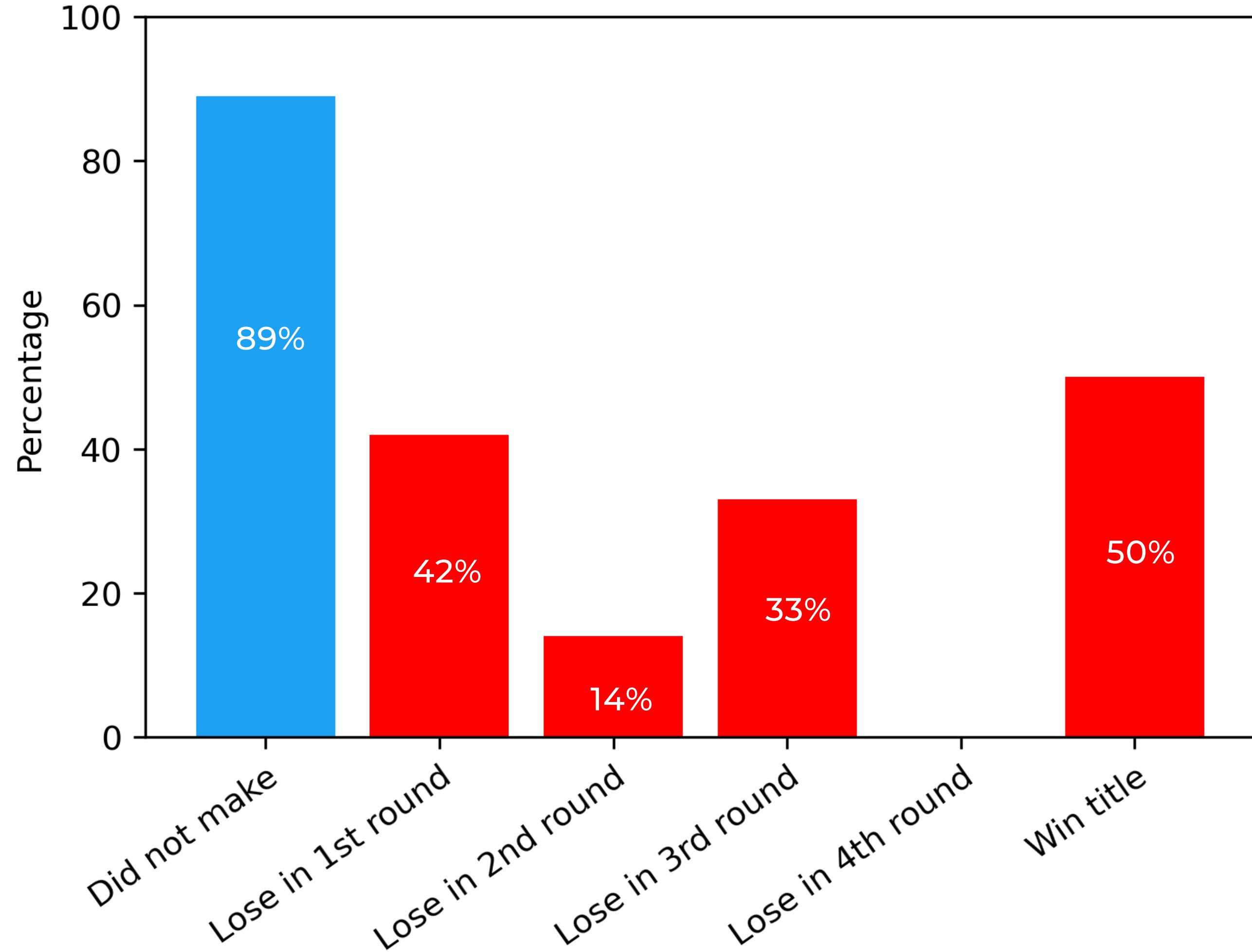
## ALGORITHM:

- Baseline: Dummy model
- Decision tree
- Random Forest
- OneVsRestClassifier
- Grid Search

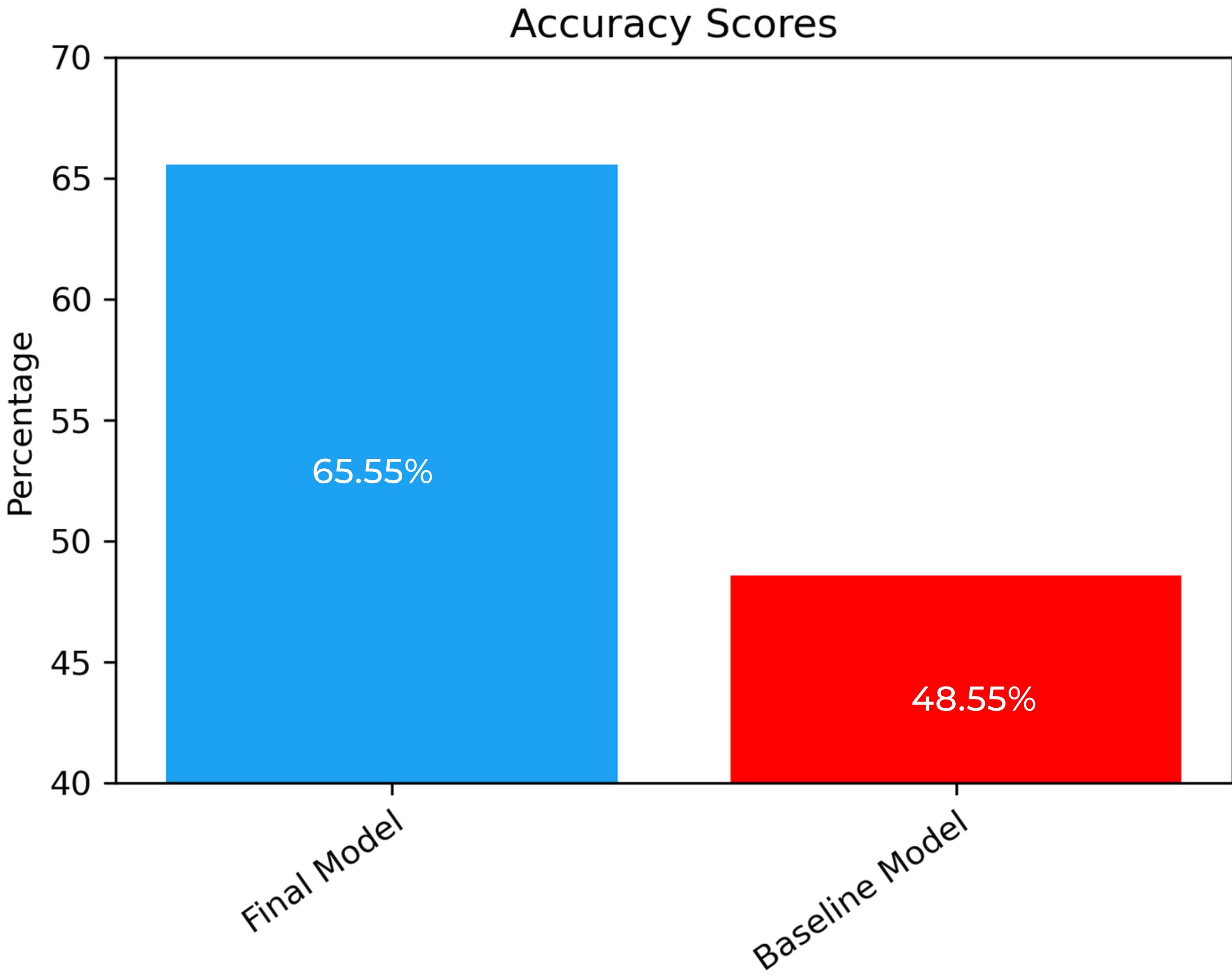


## Prediction result for each round

High percentage  
predicting team not  
making playoff



Accuracy has significant improvement compared with baseline model



# LIMITATIONS AND FUTURE PLAN

- Refining model
- More data points
- Looking for game by game stats



# CONCLUSION

- Solid performance about predicting
- Better Decision making for better performance



# CONNECT WITH ME



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