NBA · Yesterday

Final

124 - 103

Dallas Mavericks
(4 - 1)

Minnesota Timberwolves
(1 - 4)

Conference Finals · DAL wins 4 - 1

Predicting Regular Season NBA Games Scores

Initial Stage

May 31, 2024

Eric Zhou

Utilize Game Data Effectively

G: Games Played
Min: Minutes Played
Pts: Points
Reb: Rebounds
Ast: Assists
Stl: Steals
Blk: Blocks
To: Turnovers
Pf: Personal Fouls
Dreb: Defensive Rebounds
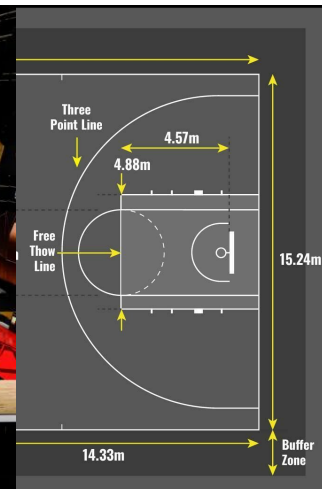Oreb: Offensive Rebounds
FG-Pct: Field Goal Percentage
3P-PCT: Three-Point Percentage
FT-Pct: Free Throw Percentage
Eff: Efficiency
Deff: Defensive Efficiency
Year: Year (Season Year)

Opportunities and potential impacts

- Data-driven recommendations for NBA teams internally
- Fan engagement and entertainment
- Betting and wagering

Proposed Vision

Home Team	Minnesota Timberwolves	10.85%	111
Away Team	Golden State Warriors	89.15%	136

Minnesota Timberwolves

	Player	MP	xMP	FGA + FTA	xFGA + FTA	2PA Poss.	2P%	3PA Poss.	3P%	FT Poss.	FT%	Rank	Pts. Sim
PG	D'Angelo Russell	32.7	32.7	16.5	16.6	40.85%	55.90%	39.02%	35.20%	20.12%	85.60%	3	13
SG	Anthony Edwards	36.5	36.5	24.2	24.3	47.52%	51.50%	29.34%	36.10%	23.14%	75.00%	1	41
PF	Karl-Anthony Towns	33.8	33.8	19.4	19.5	45.64%	61.80%	28.72%	32.50%	25.64%	88.50%	2	22
C	Rudy Gobert	31.6	31.6	12.8	12.9	61.72%	68.20%	0.78%	0.00%	37.50%	67.10%	4	14
SF	Taurean Prince	20.2	12.5	7.3	3.7	38.36%	64.40%	45.21%	39.10%	16.44%	76.90%	7	7
#1	Jaden McDaniels	30.6	30.6	10.3	10.4	53.85%	61.10%	29.81%	37.90%	16.35%	74.20%	5	21
#2	Austin Rivers	20.3	12.6	4.9	2.5	32.65%	56.00%	48.98%	37.80%	18.37%	86.20%	6	0
#3	Taurean Prince	20.2	12.5	7.3	3.7	38.36%	64.40%	45.21%	39.10%	16.44%	76.90%	8	5
#4	Naz Reid	17.6	10.9	9.2	5.0	52.17%	65.60%	29.35%	37.50%	18.48%	63.60%	9	13
#5	Jordan McLaughlin	15.9	9.8	4.2	2.5	42.86%	62.50%	45.24%	23.50%	11.90%	100.00%	10	2
#6	Bryn Forbes	10.6	6.6	3.9	2.9	41.03%	42.40%	43.59%	25.00%	15.38%	100.00%	11	2
#7	Matt Ryan	9.3	5.8	3.6	2.9	24.32%	25.00%	67.57%	35.10%	8.11%	85.70%	12	3
#8	Luka Garza	6.7	4.1	4.7	4.3	48.94%	72.00%	14.89%	12.50%	36.17%	89.50%	13	2

Golden State Warriors

Making sense of the data

1	season_id	team_id_home	team_abbr	team_name_home	game_id	game_date	matchup_home	wl
57589	22016	1610612741	CHI	Chicago Bulls	21601138	4/1/2017 0:00	CHI vs. ATL	W
57590	22016	1610612746	LAC	LA Clippers	21601137	4/1/2017 0:00	LAC vs. LAL	W
57591	22016	1610612750	MIN	Minnesota Timberwolves	21601140	4/1/2017 0:00	MIN vs. SAC	L
57592	22016	1610612751	BKN	Brooklyn Nets	21601139	4/1/2017 0:00	BKN vs. ORL	W
57593	22016	1610612751	BKN	Brooklyn Nets	21601148	4/2/2017 0:00	BKN vs. ATL	W
57594	22016	1610612748	MIA	Miami Heat	21601149	4/2/2017 0:00	MIA vs. DEN	L
57595	22016	1610612759	SAS	San Antonio Spurs	21601151	4/2/2017 0:00	SAS vs. UTA	W
57596	22016	1610612744	GSW	Golden State Warriors	21601152	4/2/2017 0:00	GSW vs. WAS	W
57597	22016	1610612752	NYK	New York Knicks	21601145	4/2/2017 0:00	NYK vs. BOS	L
57598	22016	1610612761	TOR	Toronto Raptors	21601147	4/2/2017 0:00	TOR vs. PHI	W
57599	22016	1610612739	CLE	Cleveland Cavaliers	21601150	4/2/2017 0:00	CLE vs. IND	W
57600	22016	1610612756	PHX	Phoenix Suns	21601153	4/2/2017 0:00	PHX vs. HOU	L
57601	22016	1610612749	MIL	Milwaukee Bucks	21601144	4/2/2017 0:00	MIL vs. DAL	L
57602	22016	1610612760	OKC	Oklahoma City Thunder	21601142	4/2/2017 0:00	OKC vs. CHA	L
57603	22016	1610612740	NOP	New Orleans Pelicans	21601146	4/2/2017 0:00	NOP vs. CHI	L
57604	22016	1610612747	LAL	Los Angeles Lakers	21601143	4/2/2017 0:00	LAL vs. MEM	W
57605	22016	1610612750	MIN	Minnesota Timberwolves	21600940	4/3/2017 0:00	MIN vs. POR	W
57606	22016	1610612752	NYK	New York Knicks	21601160	4/4/2017 0:00	NYK vs. CHI	W
57607	22016	1610612764	WAS	Washington Wizards	21601155	4/4/2017 0:00	WAS vs. CHA	W
57608	22016	1610612740	NOP	New Orleans Pelicans	21601158	4/4/2017 0:00	NOP vs. DEN	L
57609	22016	1610612759	SAS	San Antonio Spurs	21601161	4/4/2017 0:00	SAS vs. MEM	W
57610	22016	1610612755	PHI	Philadelphia 76ers	21601154	4/4/2017 0:00	PHI vs. BKN	L
57611	22016	1610612744	GSW	Golden State Warriors	21601162	4/4/2017 0:00	GSW vs. MIN	W
57612	22016	1610612758	SAC	Sacramento Kings	21601163	4/4/2017 0:00	SAC vs. DAL	W

1	Rk	Player	Pos	Age	Tm	G	GS	MP	FG	FGA	FG%	3
232	202	Popeye Jones	PF	27	TOR	14	4	23.1	3.7	3.1	0.465	
233	203	Michael Jordan*	SG	34	CHI	82	82	38.8	10.7	23.1	0.465	
234	204	Reggie Jordan	SG	30	MIN	57	1	8.5	0.9	2	0.478	
235	205	Adam Keefe	C	27	UTA	80	75	25.6	2.9	5.3	0.54	
236	206	Shawn Kemp	PF	28	CLE	80	80	34.6	6.5	14.6	0.445	
237	207	Tim Kempton	PF	34	TOT	8	0	5.9	0.3	1.1	0.222	
238	207	Tim Kempton	PF	34	ORL	3	0	5	0	0.7	0	
239	207	Tim Kempton	PF	34	TOR	5	0	6.4	0.4	1.4	0.286	
240	208	Steve Kerr	PG	32	CHI	50	0	22.4	2.7	6	0.454	
241	209	Jerome Kersey	SF	35	SEA	37	2	19.4	2.6	6.3	0.416	
242	210	Jason Kidd*	PG	24	PHO	82	82	38	4.4	10.5	0.416	
243	211	Kerry Kittles	SG	23	NJN	77	76	36.5	6.6	15	0.44	
244	212	Joe Kleine	C	36	CHI	46	1	8.6	0.8	2.3	0.368	
245	213	Brevin Knight	PG	22	CLE	80	76	31	3.3	7.4	0.441	
246	214	Travis Knight	C	23	BOS	74	21	20.3	2.6	5.9	0.441	
247	215	Toni KukoÄ*	SF	29	CHI	74	52	30.2	5.2	11.4	0.455	
248	216	Christian Laettner	PF	28	ATL	74	49	30.8	4.8	9.9	0.485	
249	217	Andrew Lang	C	31	MIL	57	0	12.1	0.9	2.5	0.378	
250	218	Antonio Lang	SF	25	MIA	6	0	4.8	0.5	0.8	0.6	
251	219	Rusty LaRue	PG	24	CHI	14	0	10	1.4	3.5	0.408	
252	220	Priest Lauderdale	C	24	DEN	39	0	8.8	1.4	3.3	0.417	
253	221	Jason Lawson	C	23	ORL	17	0	4.7	0.5	0.9	0.6	
254	222	Tim Legler	SG	31	WAS	8	0	9.5	0.4	2.4	0.158	
255	223	Voshon Lenard	SG	24	MIA	81	81	32.4	4.5	10.5	0.425	
256	224	Alton Lister	C	39	POR	7	0	6.3	0.4	1.1	0.375	
257	225	Randy Livingston	PG	22	ATL	12	0	6.8	0.3	1	0.25	
258	226	Horacio Llamas	C	24	PHO	8	0	5.3	1	2.6	0.381	

Proposed Vision

- The final model can predict the

  winning team with **65%+** accuracy!
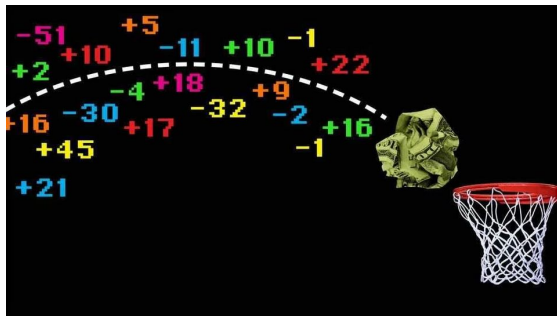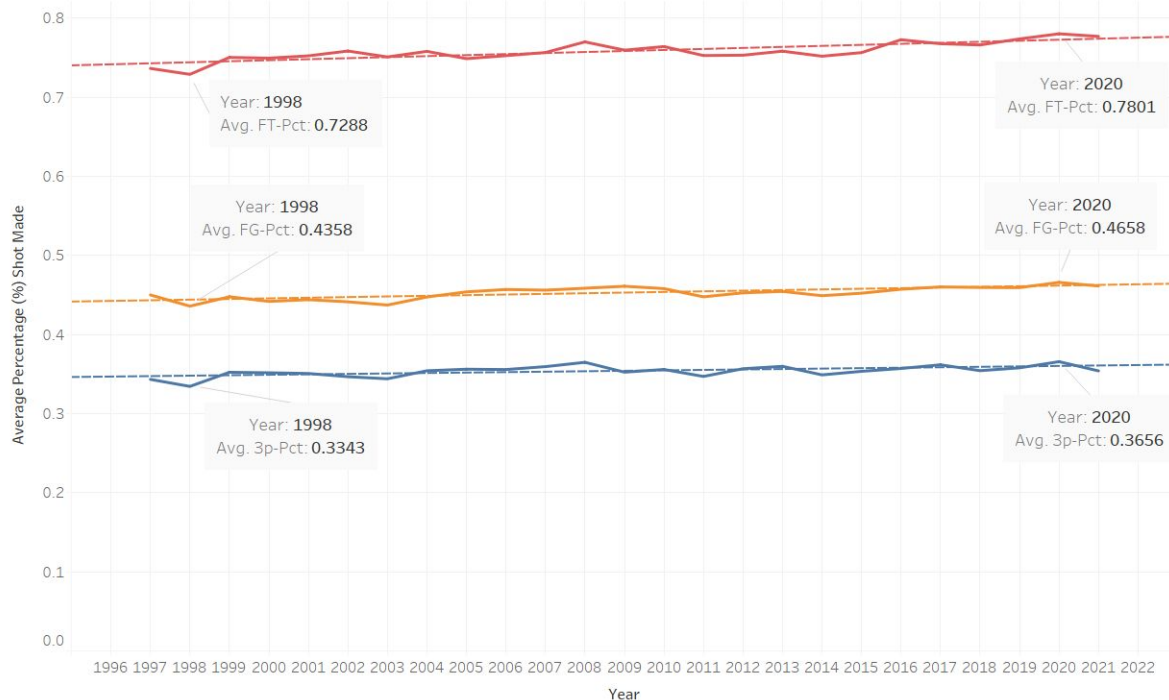
Potential Impact

- Enhance decision-making for various stakeholders
- Inform betting decisions
- Improve fan engagement

Findings from preliminary EDA

3 Way NBA Scoring Percentage (%) From 1997-2022

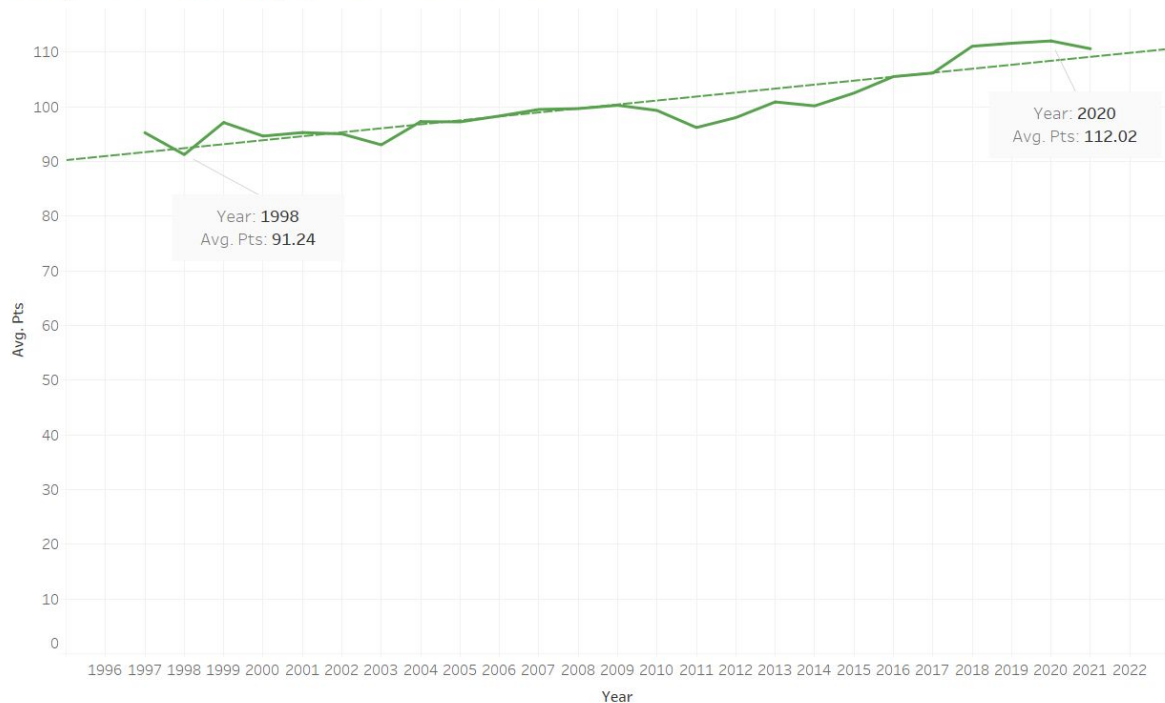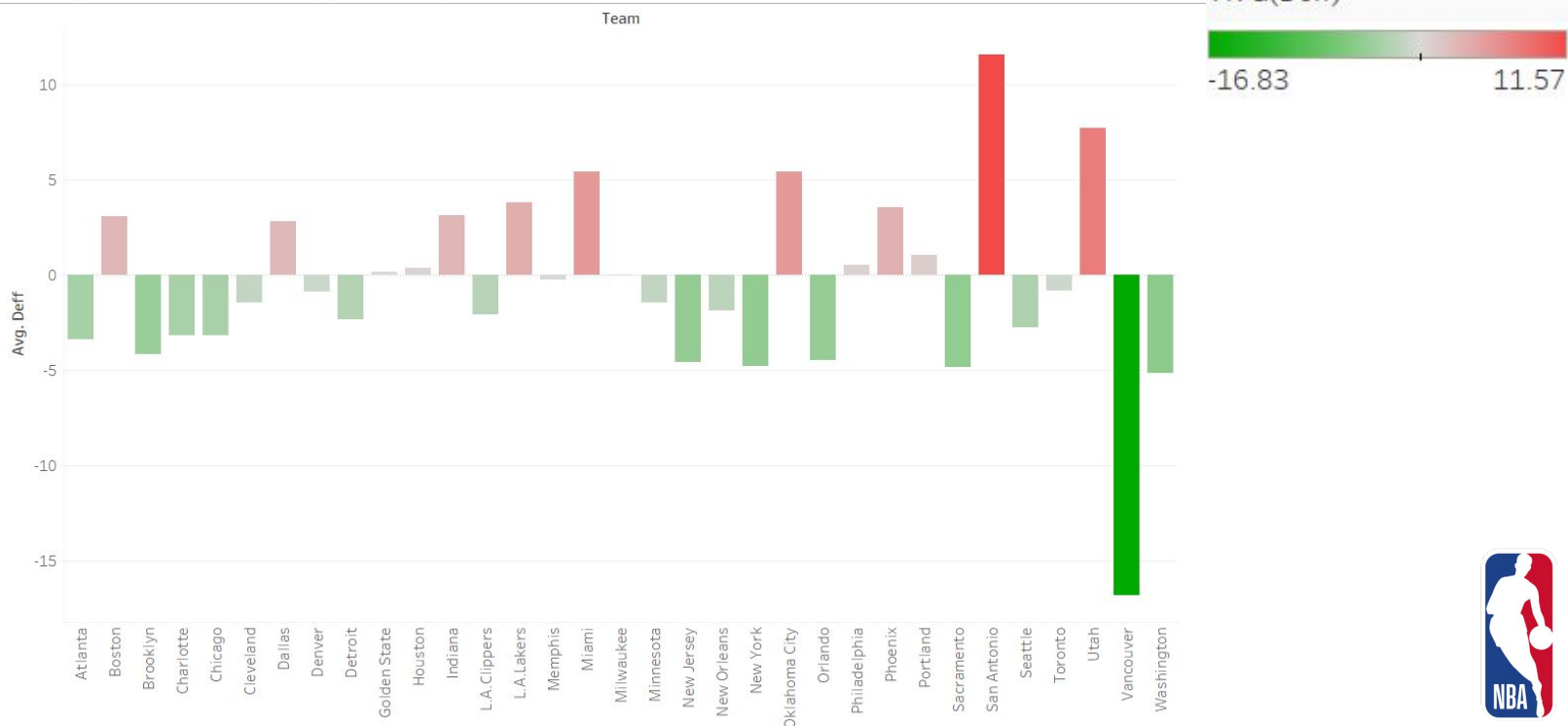# Findings from preliminary EDA

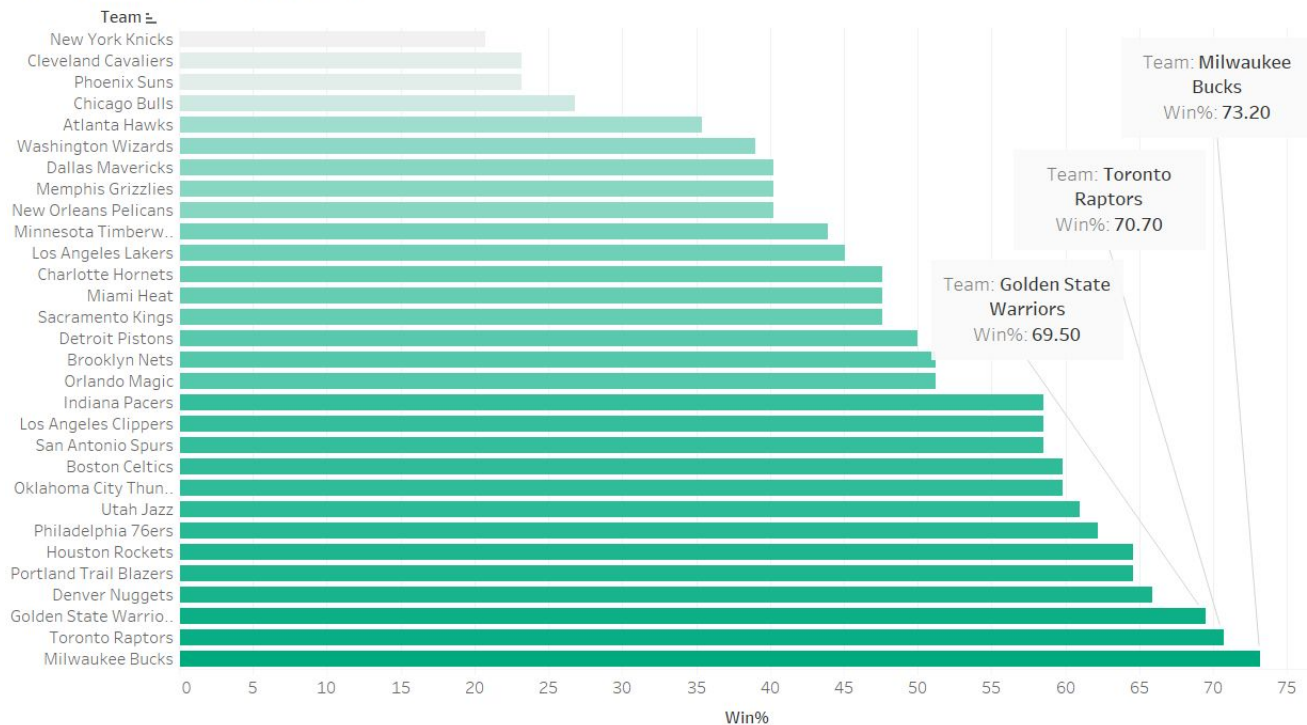Average Points Scored By NBA Teams 1997-2022

Findings from preliminary EDA

Average Defensive Efficiency of NBA Teams 1997-2022

Findings from preliminary EDA

NBA Teams By Most Wins 2018-2019

Next steps

- More data collection and EDA
- Identify/create relevant metrics/features for building baseline model
- Model selection and training
- Model evaluation and iterative improvements
- Test it out real-life and continuous updates