

Predicting Season Outcomes for the NBA (Extended version)

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Abstract. Predicting game or season outcomes is important for clubs as well as for the betting industry. Understanding the critical factors of winning games and championships gives clubs a competitive advantage when selecting players for the team and implementing winning strategies. In this paper, we work with NBA data from 10 seasons and propose an approach for predicting game outcomes that is then used for predicting which team will be champion and which stages a team will reach in the playoffs. We show that our approach has a similar performance as the odds from betting companies and does better than ELO.

1 Introduction

In many sports, work has started on predicting game or season outcomes. From an entertainment point of view, this is important considering the amount of money spent on betting. For clubs, understanding the critical factors of winning games and championships is important for creating a competitive team and implementing winning strategies. This paper focuses on such predictions for the National Basketball Association (NBA).

Most of the work on predicting game or season outcomes for the NBA uses box score information. The Four Factors (effective field goal percentage, turnovers per possession, offensive rebounding percentage, and free throw rate, e.g., [8, 3]) which have an offense variant and a defense variant, are used as a basis in [9, 1]. In [6], 18 box score features and information about wins and losses were used for 778 games. The Naive Bayes-based method reached 67% accuracy for game outcome. Several neural networks were trained on data from 620 NBA games using 11 box score statistics in [4]. The best networks had a prediction accuracy of 74%. A Maximum Entropy principle-based approach used on data from 7 seasons obtained an accuracy of 74% [2]. In [10], data was collected from the NBA finals 1980-2017 and 22 mainly box score features were used. The most significant feature influencing game outcome was deemed to be defensive rebounds. Other important factors were three-point percentage, free throws made, and total rebounds. A method taking into account team strength with attention to home court advantage and back-to-back games is proposed in [5]. Different approaches tested on 8 seasons have a prediction accuracy between 66% and 72% for regular seasons and between 64% and 79% for playoffs. The progression of a

basketball game is modeled by a Markov model using play-by-play data in [12] and by a probabilistic graphical model based on play-by-play data and tracking data in [7]. Play-by-play data is also used for learning stochastic models for substitutions. In all cases, the models are used for game outcome prediction. There is also work on predicting the outcome of basketball games in other leagues, but techniques may need adjustment to be transferable between leagues (e.g., [11]).

In this paper, we propose an approach for predicting which team will become NBA champion and to which stage of the NBA playoffs a team will proceed. The data that we use is from 10 seasons of NBA games and is presented in Sect. 2. We first introduce an approach for game outcome prediction (Sect. 3). This approach is then used to simulate NBA seasons and to derive frequencies over 10,000 simulations for teams reaching the different stages of the playoffs or become NBA champion (Sect. 4). We show that our approach has a similar performance as the odds from betting companies and significantly outperforms ELO. The paper concludes in Sect. 5.

2 Data collection and preparation

We gathered data from 10 complete NBA seasons from 2008-2009 to 2017-2018. All the extracted information comes from web-scraping <https://www.basketball-reference.com/>, a website specialized on NBA stats. The site includes box scores providing information relevant to a team’s performance in a single game, including well-known performance measures such as points, assists, and rebounds, as well as performance data on team level and information on the current regular season record prior to a game. Also information about salaries, draft picks and performance during previous seasons is available.

Table 1 summarizes the kind of data that we used.¹ Team victory is the objective variable. It takes a value of 1 in case the team has won the current match. This is the value to be predicted by the different classification models. For the collected team data we have standardized the team names. Thus, the teams which have changed their denominations in the previous 10 seasons have been converted to their current team names, e.g., the New Jersey Nets are denoted as the Brooklyn Nets. Our approach for season prediction involves simulating the seasons using a game outcome model for each game and then updating the information for the next game. Therefore, we use only stats in the box scores that can be derived from the game outcome. This means that stats such as assists, blocks, and points are not used.

From the **box scores** we retained information about the games regarding which team is the home team, at which stage of the season the game is played and how many earlier games were played in that stage, how many wins and losses the team had up to the current game in the regular season or in a playoff round, whether the team won the last game, the number of wins and losses in the last 3, 8, 15 games, home games and away games, and whether the game

¹ Explanations of all features can be found in Appendix A.

is a back-to-back game. The latter is important as the performance of players usually decreases when playing consecutive games in such a short time period [4]. The previous 3, 8, 15 games take into account the recent performance of the team. We also look at sequences of home and away games as teams often have road trips and time periods with many consecutive home games in a row.

For **team performance in previous seasons** we gathered information on the stage that the team reached, the regular season record, the offensive rating in terms of points scored per 100 possessions, and the defensive rating in terms of points allowed per 100 possessions. We also collected the Four Factors metrics.

The **performance of individual players** has an impact on the team performance. This is particularly true in sports such as basketball, where there are only five players per team on the court at each moment in time and the top players often play the majority of the game. Due to the top players' significantly impacting the outcome of games, many NBA teams prioritize trying to recruit two or three top players to their roster. These players are often referred to as the "Big Two" or the "Big Three", and are generally considered the most important players for team success. An example of a high impact player is LeBron James. Before arriving to the Cleveland Cavaliers in 2006 (after being drafted), Cleveland had never won the NBA championship and performed poorly on a regular basis. After his arrival, they reached the playoffs for 5 consecutive years until his move to Miami in 2010 with an NBA final in 2007. The team did not qualify for the playoffs again until his return to the team in 2014, when they played four consecutive finals and won the title in 2016. During his four years in Miami, he also made it to the finals each year (and won two championships), while forming a feared "Big Three" together with Dwyane Wade and Chris Bosh. We collected data about the performance of players using a variant of eWS48 which is an estimate of the number of wins contributed by a player per 48 minutes (total time played in a game without overtime). The average value in the league is around 0.100. We normalized this by multiplying by the minutes played during the season and divided by the total number of games in the season (82) and the number of minutes in a standard game (48). We then aggregated player performances to a team level. We used information on the mean eWS48 for returning players (staying with the team) and players leaving and joining the team.

The features related to **player salaries** represent how much a team pays their players, how this quantity relates to the salary cap imposed by the league, and the importance of key players based on how much they are paid. The total salary - salary cap ratio can be a critical factor, since spending more money usually leads to better players on the roster. However, if a team pays their players over the salary limit, they need to pay also a luxury tax, which could influence the team's future development. The importance of the salary of the top players can be exemplified by the fact that, according to <https://hoopshype.com/salaries/>, in the 2008-2009 season the Boston Celtics paid 61 MUSD, i.e., 77% of the salary, only to 3 players. In general, at least half of the teams during each of the seasons considered in this paper spent over 50% of the salary to 3 players.

The features for the **NBA draft picks** represent the draft picks made by the teams in the previous 5 years. The draft is organized in two rounds of (usually) 30 players. Usually, the earlier the player gets picked, the better his expected performance is. However, this has not always been the case, as several 1st draft picks left the league after a few years, due to injuries or poor performance.

3 Game Outcome Prediction

3.1 Methods

A first step in our approach is to compute a model for game outcome prediction. We used four different techniques: Logistic Regression (LR), Linear Support Vector Machines (LSVM), Random Forest (RF) and Multilayer Perceptron (MLP). For each of these techniques we did hyperparameter tuning to find the best fit to the data. Furthermore, when appropriate, we selected the features for the different algorithms that resulted in the best accuracy which is the ratio of correct predictions to all predictions or $(TP + TN) / (TP + TN + FP + FN)$, where TP is the number of true positives, TN the number of true negatives, FP the number of false positives and FN the number of false negatives. For every combination of hyperparameters and features, we fit the model and predict a season based only on the data from previous seasons, and report the averages using the 10 different resulting accuracies.

3.2 Results

For LR, we used a grid of values to tune the hyperparameter C, which stands for the inverse of regularization strength (see Fig. 1). The best accuracy was obtained by the model with $C = 0.1$, with a mean test accuracy score of 68.58%.

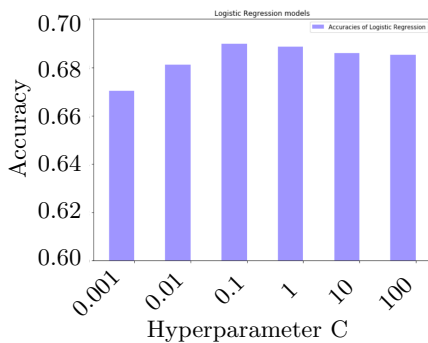


Fig. 1. Accuracies for the different models of LR, with different C.

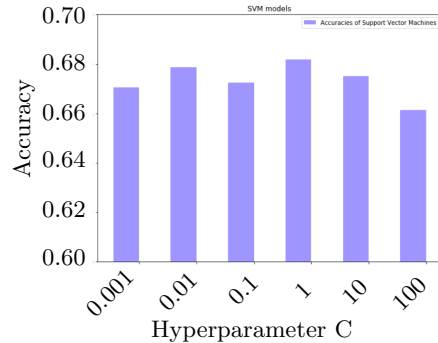


Fig. 2. Accuracies for the different models of LSVM, with different C.

For LSVM, we tried to optimize the C parameter, which adds a penalty for each misclassified data point (see Fig. 2). The best accuracy was obtained by the model with $C = 1$, with a mean test accuracy score of 68.18%.

Table 1: Features.

Box score data per game	Home team Season stage Games played in Regular Season Wins in League Record Losses in League Record Games played in current play-offs round Wins in current play-offs round Losses in current play-offs round Won Last game Won Last Home game Won Last Away game Wins in previous 3, 8 and 15 games Wins in previous 3, 8 and 15 home games Wins in previous 3, 8 and 15 away games Back-to-back game
Team performance in previous season	Previous season furthest stage Previous season regular season record Previous season offensive rating Previous season defensive rating Offense Four Factors: eFG%, TOV%, ORB%, FT/FGA Defense Four Factors: eFG%, TOV%, DRB%, FT/FGA
Player performance in previous season	Staying players weighted mean eWS48 Signed players weighted mean eWS48 Leaving players weighted mean eWS48
Player Salaries	Total Salary Total Salary / Salary Cap Ratio Top-1 player salary ratio Top-2 players salary ratio Top-3 players salary ratio Top-5 players salary ratio
NBA draft picks	Previous season draft picks in positions 1 to 3 Previous season draft picks in positions 4 to 10 Previous season draft picks in positions 11 to 20 Previous season draft picks in positions 21 to end of 1st round Previous season draft picks in 2nd round Previous 3 seasons draft picks in positions 1 to 3 Previous 3 seasons draft picks in positions 4 to 10 Previous 3 seasons draft picks in positions 11 to 20 Previous 3 seasons draft picks in positions 21 to end of 1st round Previous 3 seasons draft picks in 2nd round Previous 5 seasons draft picks in positions 1 to 3 Previous 5 seasons draft picks in positions 4 to 10 Previous 5 seasons draft picks in positions 11 to 20 Previous 5 seasons draft picks in positions 21 to end of 1st round Previous 5 seasons draft picks in 2nd round
Objective variable	Team Win

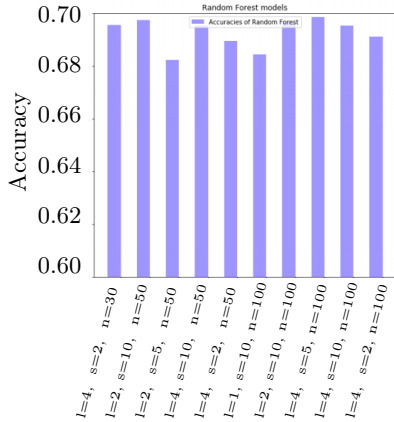


Fig. 3. Top 10 accuracies for the different models of Random Forest with different combinations of hyperparameters (min_samples_leaf , min_samples_split , and n_estimators).

For MLP, we used sets of different values for the different hyperparameters. We used single hidden layer networks with 50, 100, or 180 neurons in each layer. For the regularization term alpha (L2) we used 0.0001, 0.01, and 0.05. As activation functions we used hyperbolic tangent function, logistic sigmoid function and rectified linear unit function. The learning rate for the schedule for weight updates was kept constant at 0.001 or adaptive which kept the learning rate constant at 0.001 as long as training loss kept decreasing. Further, we used SGD and Adam for weight optimization. The best accuracy was achieved by the model with hyperbolic tangent function as the activation function, alpha = 0.05, a single hidden layer with 100 neurons, Adam solver and an adaptive learning rate (Fig. 4). This combination had a mean test accuracy score of 68.85%.

For RF, we used sets of different values for the different hyperparameters. For the number of estimators representing the number of trees in the forest we used the values 10, 15, 20, 30, 50 and 100. The minimal number of samples required to split a node was set to 2, 5 and 10, while the minimum number of samples in a leaf node was set to 1, 2 and 4. The top 10 accuracies are shown in Fig. 3. The best accuracy was achieved by the model with number of estimators = 100, minimum of samples in a leaf = 4 and minimum of samples in a split = 5. This combination got a mean test accuracy score of 69.88%.

The representative for RF obtained the best result. This was the model that we selected to use in the the season simulations.

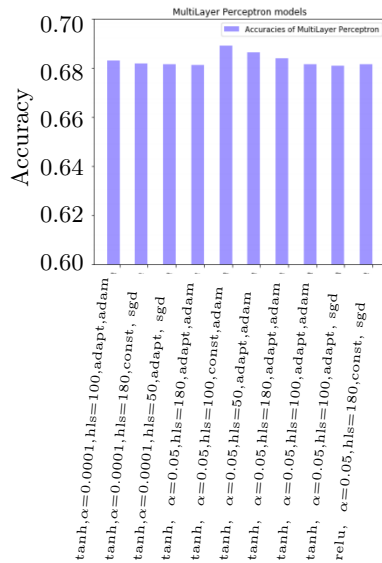


Fig. 4. Top 10 accuracies for the different models of Multilayer Perceptron with different combinations of hyperparameters. (Models used: activation, tanh/relu, α , hidden_layer_size (hls), learning_rate, constant/adaptative, solver, adam/sgd).

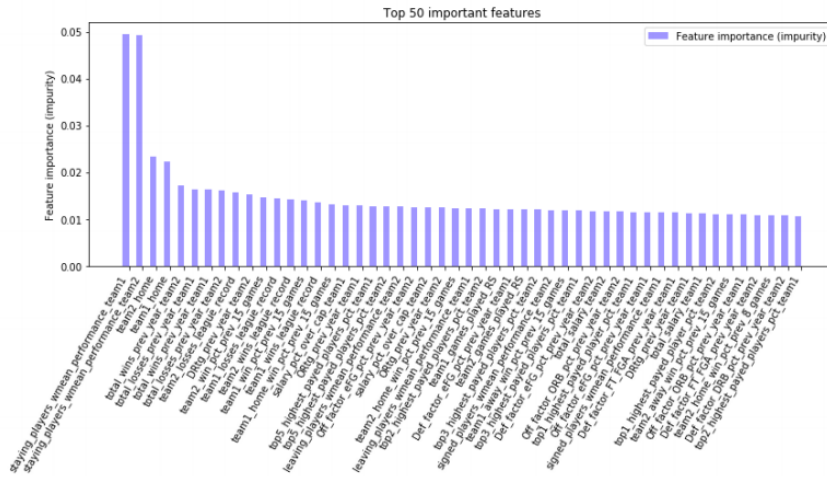


Fig. 5. Feature importance for chosen RF model.

In Fig. 5 we show the 50 most important features with respect to Gini impurity for the chosen model. The most relevant features are the performances during the previous season of the players that stayed with the team. Further, whether a team is the home team in a game is important. This suggests a home team advantage. The rest of the top-50 most important features have relatively similar values. Among these, there are wins and losses in the current and previous seasons. Regarding the last games, it is more important to look at the last-15 games than the other values we looked at (3 and 8). Further, there are some features related to the total salary of a team, the percentage over the salary cap and the salary of the top-2 and top-3 players. Also factors regarding team performance (offense and defense) from the previous years and regarding the performance of leaving and signed players appear in this top-50 list.

4 Season simulation

We simulated 10 complete seasons from 2008-2009 to 2017-2018 using the chosen RF model. Since we had the actual schedule of the regular season from each year, we could simulate the calendar in the same order as it occurred in reality. For every season and every game in the calendar, we predicted the output probabilities of each team to win. During the simulation, we used these probabilities to draw a random number between 0 and 1 uniformly. If the draw landed between 0 and the probability of a team winning, the victory is assigned to the team, otherwise the win went to the opponent. Upon the assignment of the win we updated the values of the dynamic features in order to prepare the input for the upcoming games. Once the whole regular season was simulated, the playoffs started. At this stage, we simulated the playoff series as a means to pick the best team from each playoff matchup until a single team became the NBA champion. This simulation process was repeated 10,000 times in order

Table 2: Predictions for the 2017-2018 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	GSW	88.4	73.1	47.9	28.9	20.8	NBA champion	1752	1745
2	CLE	86.5	58.0	37.8	22.3	16.1	NBA finals	1650	1577
3	HOU	83.5	51.6	34.1	20.9	14.6	Conf. finals	1574	1704
4	TOR	85.5	56.1	36.9	20.8	10.4	Conf. semifinals	1532	1600
5	SAS	86.3	64.5	35.7	17.4	8.6	1st round	1617	1551
6	BOS	81.6	50.5	29.8	12.2	7.3	Conf. finals	1532	1580
7	NOP	79.8	57.0	29.8	9.6	4.1	Conf. semifinals	1488	1585
8	UTA	67.5	46.1	19.8	7.3	2.5	Conf. semifinals	1580	1663
9	OKC	65.9	30.8	15.6	6.0	2.2	1st round	1518	1611
10	POR	58.9	30.6	13.1	5.6	1.5	1st round	1531	1579
11	PHI	79.2	33.1	14.0	5.7	1.4	Conf. semifinals	1380	1641
12	WAS	59.0	26.1	12.4	4.8	1.2	1st round	1566	1499
13	MIA	86.6	37.5	13.5	4.4	1.2	1st round	1553	1497
14	IND	54.0	21.7	8.0	3.1	1.0	1st round	1503	1572
15	MIN	60.6	18.9	6.8	2.3	1.0	1st round	1474	1548
16	MIL	39.2	15.4	6.6	2.1	0.7	1st round	1508	1522
17	DET	36.6	12.9	5.3	1.7	0.6	9th East conf.	1457	1488
18	LAC	36.2	13.8	4.7	1.5	0.5	10th West conf.	1591	1506
19	CHO	39.7	10.9	3.7	1.1	0.4	10th East conf.	1473	1501
20	CHI	30.3	14.8	4.0	1.0	0.3	13th East conf.	1497	1317
21	NYK	22.8	8.9	2.8	0.8	0.3	11th East conf.	1407	1378
22	DEN	41.5	13.9	3.7	1.1	0.2	9th West conf.	1540	1587
23	DAL	21.4	6.4	1.7	0.4	0.2	13th West conf.	1441	1357
24	MEM	45.5	10.3	2.1	0.4	0.1	14th West conf.	1489	1322
25	SAC	50.4	10.5	2.4	0.4	0.1	12th West conf.	1421	1360
26	ORL	15.8	4.0	1.2	0.3	0.1	14th East conf.	1390	1335
27	BRK	16.2	4.2	1.2	0.3	0.0	12th East conf.	1405	1408
28	LAL	20.5	4.1	0.9	0.2	0.0	11th West conf.	1401	1486
29	ATL	17.9	4.0	0.8	0.2	0.0	15th East conf.	1486	1349
30	PHO	13.8	5.1	0.9	0.1	0.0	15th West conf	1381	1277

to obtain not only the winning frequencies of each team to become the NBA champion, but also for reaching the different stages of the competition. The whole simulation process was performed for every season 2008-2009 to 2017-2018. To keep consistency in our predictions, we trained our model only on the seasons previous to the one that we were simulating. Table 2 shows the results for the 2017-2018 season. The complete results for the 2008-2009 to 2017-2018 seasons are available at <https://www.ida.liu.se/research/sportsanalytics/projects/conferences/MLSA21-basketball/>. In addition to the predictions of our method, we have also added information about the teams' ELO at the start and end of the season. ELO data was obtained from <https://projects.fivethirtyeight.com/complete-history-of-the-nba>.

Table 3 shows the prediction success of the method over the 10 seasons. We say that a prediction is correct for a team and a season regarding one of the

Table 3: Prediction success. For all stages, the first/second number is the number of correct predictions using our approach (first) and ELO (second) at the start of the season. For the NBA champion, the third number shows the success based on the pre-season odds. (* Two teams with same odds of which one was champion.)

Season	1st Round	Conf. Semifinal	Conf. Final	NBA Final	NBA Champion
2008-2009	13/12	6/3	3/1	1/1	0/0/0.5*
2009-2010	13/13	6/4	3/2	1/1	1/1/1
2010-2011	12/10	3/2	1/0	0/0	0/0/0
2011-2012	13/11	5/5	3/2	1/1	1/0/1
2012-2013	14/12	5/6	3/2	2/2	1/0/1
2013-2014	12/11	5/5	4/3	2/2	0/0/0
2014-2015	12/11	4/4	0/1	0/0	0/0/0
2015-2016	12/12	5/4	2/2	1/1	0/0/0
2016-2017	13/13	5/3	3/3	2/1	1/0/1
2017-2018	15/13	7/4	2/2	2/2	1/1/1
Total	129/118	51/40	24/18	12/11	5/2/5.5
out of	160	80	40	20	10

stages NBA Champion, NBA Final, Conference Final, Conference Semifinal and 1st Round, if the prediction score for the team reaching the stage is among the 1, 2, 4, 8, 16 highest, respectively, for the season. Further, we compare with the ELO at the start of the season and for the NBA Champions also with the pre-season odds at <https://www.basketball-reference.com/>. The Spearman correlation of our prediction scores and ELO at the start of the season for NBA Champion ranges from 0.71 to 0.96. For the other stages NBA Final, Conference Finals, Conference Semifinals and 1st Round, these ranges are 0.72 to 0.95, 0.71 to 0.95, 0.73 to 0.92 and 0.69 to 0.92, respectively (Table 4). The highest correlation for each stage is for the 2016-2017 season, while the lowest is for the 2017-2018 season. Note that for all stages our approach outperforms the ELO approach. We obtain the same predictions as the odds-based approach for all seasons except 2008-2009 where two teams had the same lowest odds.

Table 4: Spearman correlation between prediction score and ELO at start of season.

Season	1st Round	Conf. Semifinal	Conf. Final	NBA Final	NBA Champion
2008-2009	0.8432529	0.8525648	0.9086255	0.9178359	0.9181914
2009-2010	0.8868365	0.9048626	0.9370062	0.9313884	0.9361926
2010-2011	0.8196685	0.8908666	0.9139869	0.9081600	0.9253556
2011-2012	0.8265658	0.8661698	0.8985088	0.8830014	0.9045688
2012-2013	0.8792701	0.8787002	0.8971390	0.8662733	0.8859901
2013-2014	0.9031038	0.9065421	0.9143112	0.9048204	0.9203673
2014-2015	0.7259177	0.7872719	0.8261741	0.8330925	0.8301203
2015-2016	0.8700490	0.8929446	0.8981637	0.8956920	0.9083453
2016-2017	0.9209033	0.9202181	0.9565992	0.9540246	0.9622899
2017-2018	0.6908444	0.7329773	0.7199778	0.7292364	0.7118506

5 Conclusion

In this paper, we first proposed an approach for game outcome prediction that reached a mean accuracy of 69.88%. The most relevant features in the model are found to be the performances during the previous season of the players that stayed on the team as well as whether a team plays at home. Other important features are wins and losses in the current (last 15 games) and previous seasons, offensive and defensive performance from previous years, performance of signed and leaving players, and salary features. Second, we then used this approach to simulate 10 NBA seasons 10,000 times and computed frequencies for teams reaching different stages in the playoffs. We showed that the approach was equally successful in picking a Champion as the odds makers and consistently outperformed ELO for all playoff rounds (except one 2014-2015 round). Future work will investigate whether the approach is equally successful for other sports.

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Appendix A - Features

Table 5: Features - 1.

Box score data per game	
Home team	1 if team is home team, 0 if team is away team.
Season stage	One of: regular season, 1st round, conference semi-finals, conference finals, NBA final.
Games played in Regular Season	Amount of games played by the team up to, but not including the current game during regular season. The value is set to 82 during play-offs.
Wins in League Record	Number of wins up to current game during the regular season. Not updated during playoffs.
Losses in League Record	Number of losses up to current game during the regular season. Not updated during playoffs.
Games played in current play-offs round	Number of games played by the team up to, but not including the current game during each play-off round. The value is reset to 0 at the beginning of each playoff round. The value is set to 0 during the regular season.
Wins in current play-offs round	Number of wins by the team up to, but not including the current game during each play-off round. The value is reset to 0 at the beginning of each playoff round. The value is set to 0 during the regular season.
Losses in current play-offs round	Number of losses by the team up to, but not including the current game during each play-off round. The value is reset to 0 at the beginning of each playoff round. The value is set to 0 during the regular season.
Won Last game	1 if team won the last game; 0 otherwise.
Won Last Home game	1 if team won the last home game; 0 otherwise.
Won Last Away game	1 if team won the last away game; 0 otherwise.
Wins in previous 3, 8 and 15 games	Number of wins during the previous 3, 8 and 15 played games by the team
Wins in previous 3, 8 and 15 home games	Number of wins during the previous 3, 8 and 15 played home games by the team
Wins in previous 3, 8 and 15 away games	Number of wins during the previous 3, 8 and 15 played away games by the team
Back-to-back game	1 if the team has played a game within the last 36 hours; 0 otherwise.

Table 6: Features - 2.

Team performance in previous season	
Previous season furthest stage	One of: not qualified for play-offs, 1st round loss, conference semi-finals loss, conference finals loss, NBA final loss or NBA champion.
Previous season regular season record	Number of wins and losses during the previous regular season.
Previous season offensive rating	Estimated amount of points scored in 100 possessions in the previous season.
Previous season defensive rating	Estimated amount of points allowed in 100 possessions in the previous season.
Offense Four Factors: eFG%, TOV%, ORB%, FT/FGA	Effective Field Goals percentage, Turnovers committed per 100 plays, Percentage of available Offensive Rebounds, Free Throws per Field Goal attempt.
Defense Four Factors: eFG%, TOV%, DRB%, FT/FGA	Opponent effective Field Goals percentage, Turnovers caused on the opponent per 100 plays, Percentage of available Defensive Rebounds, Opponent Free Throws per Field Goal attempt.

Table 7: Features - 3.

Player performance in previous season	
Staying players weighted mean eWS48	Weighted mean performance of the players that remained in the team from the previous season.
Signed players weighted mean eWS48	Weighted mean performance of the players that joined in the team after the previous season.
Leaving players weighted mean eWS48	Weighted mean performance of the players that left the team after the previous season.

Table 8: Features - 4.

Player Salaries	
Total Salary	Sum of the salaries of all the players in the team.
Total Salary / Salary Cap Ratio	Ratio between total salary payed by a team and the salary limit established by the league.
Top-1 player salary ratio	Ratio between the salary of the top player and the total salary of the team.
Top-2 players salary ratio	Ratio between the sum of the salaries of the top 2 players and the total salary of the team.
Top-3 players salary ratio	Ratio between the sum of the salaries of the top 3 players and the total salary of the team.
Top-5 players salary ratio	Ratio between the sum of the salaries of the top 5 players and the total salary of the team.

Table 9: Features - 5.

NBA draft picks	
Previous season draft picks in positions 1 to 3	Number of draft picks in positions 1 to 3 during previous season
Previous season draft picks in positions 4 to 10	Number of draft picks in positions 4 to 10 during previous season
Previous season draft picks in positions 11 to 20	Number of draft picks in positions 11 to 20 during previous season
Previous season draft picks in positions 21 to end of 1st round	Number of draft picks in positions 21 to end of 1st round during previous season
Previous season draft picks in 2nd round	Number of draft picks in 2nd round during previous season
Previous 3 seasons draft picks in positions 1 to 3	Number of draft picks in positions 1 to 3 during previous 3 seasons
Previous 3 seasons draft picks in positions 4 to 10	Number of draft picks in positions 4 to 10 during previous 3 seasons
Previous 3 seasons draft picks in positions 11 to 20	Number of draft picks in positions 11 to 20 during previous 3 seasons
Previous 3 seasons draft picks in positions 21 to end of 1st round	Number of draft picks in positions 21 to end of 1st round during previous 3 seasons
Previous 3 seasons draft picks in 2nd round	Number of draft picks in 2nd round during previous 3 seasons
Previous 5 seasons draft picks in positions 1 to 3	Number of draft picks in positions 1 to 3 during previous 5 seasons
Previous 5 seasons draft picks in positions 4 to 10	Number of draft picks in positions 4 to 10 during previous 5 seasons
Previous 5 seasons draft picks in positions 11 to 20	Number of draft picks in positions 11 to 20 during previous 5 seasons
Previous 5 seasons draft picks in positions 21 to end of 1st round	Number of draft picks in positions 21 to end of 1st round during previous 5 seasons
Previous 5 seasons draft picks in 2nd round	Number of draft picks in 2nd round during previous 5 seasons

Appendix B - Predictions

Table 10: Predictions for the 2008-2009 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	BOS	88.4	73.1	47.9	28.9	17.8	Conf. Semifinals	1667	1653
2	LAL	86.5	58.0	39.8	26.3	16.1	NBA Champion	1652	1790
3	DET	83.5	51.6	34.1	21.9	12.6	1st Round	1612	1463
4	CLE	85.5	56.1	36.9	20.8	10.4	Conf. Finals	1548	1742
5	ORL	86.3	64.5	35.7	20.4	9.6	NBA Finals	1591	1673
6	SAS	81.6	50.5	29.8	15.2	7.3	1st Round	1634	1595
7	HOU	79.8	57.0	29.8	15.6	6.1	Conf. Semifinals	1608	1664
8	DEN	67.5	46.1	19.8	7.3	3.5	Conf. Finals	1566	1662
9	UTA	65.9	30.8	15.6	6.0	2.2	1st Round	1633	1547
10	DAL	58.9	30.6	13.1	5.6	2.2	Conf. Semifinals	1563	1614
11	NOP	75.2	33.1	14.0	5.7	2.1	1st Round	1618	1478
12	ATL	59.0	26.1	12.4	4.8	1.7	Conf. Semifinals	1479	1505
13	PHI	73.6	27.5	13.5	4.4	1.5	1st Round	1506	1476
14	PHO	54.0	21.7	8.0	3.1	1.3	9th West conf.	1605	1540
15	WAS	50.61	8.9	6.8	2.3	1.0	15th East conf.	1494	1314
16	GSW	39.2	15.4	6.6	2.1	0.7	10th West conf.	1540	1417
17	POR	46.6	12.9	5.3	1.7	0.6	1st Round	1473	1633
18	IND	36.21	3.8	4.7	1.5	0.5	9th East conf.	1473	1493
19	CHO	39.7	10.9	3.7	1.1	0.4	10th East conf.	1462	1461
20	CHI	30.3	14.8	4.0	1.0	0.3	1st Round	1450	1526
21	BRK	22.8	8.9	2.8	0.8	0.3	11th East conf.	1436	1436
22	SAC	41.5	13.9	3.7	1.1	0.2	15th West conf.	1474	1285
23	TOR	21.4	6.4	1.7	0.4	0.2	13th East conf.	1486	1436
24	MIL	45.5	10.3	2.1	0.4	0.1	12th East conf.	1331	1435
25	NYK	50.4	10.5	2.4	0.4	0.1	14th East conf.	1359	1399
26	MIN	15.8	4.0	1.2	0.3	0.1	11th West conf.	1393	1326
27	LAC	16.2	4.2	1.2	0.3	0.0	14th West conf.	1363	1256
28	MEM	20.5	4.1	0.9	0.2	0.0	12th West conf.	1369	1379
29	MIA	17.9	4.0	0.8	0.2	0.0	1st Round	1320	1509
30	OKC	13.8	5.1	0.9	0.1	0.0	13th West conf.	1354	1367

Table 11: Predictions for the 2009-2010 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	LAL	86.4	73.1	43.9	27.9	16.6	NBA Champion	1719	1691
2	CLE	86.5	58.0	39.8	24.3	16.2	Conf. Semifinals	1682	1646
3	BOS	86.5	51.6	38.1	24.2	16.2	NBA Finals	1616	1669
4	ORL	85.5	56.1	36.9	21.4	9.4	Conf. Finals	1631	1744
5	ATL	86.3	64.5	35.7	18.4	9.0	Conf. Semifinals	1505	1584
6	SAS	81.6	50.5	29.8	15.2	6.3	Conf. Semifinals	1573	1624
7	DEN	78.8	57.0	29.8	13.6	5.1	1st Round	1623	1597
8	POR	67.5	46.1	19.8	9.3	5.5	1st Round	1601	1569
9	DAL	65.9	32.8	15.6	6.0	3.2	1st Round	1586	1595
10	MIA	58.9	30.6	13.1	9.6	3.1	1st Round	1508	1561
11	HOU	79.2	33.1	14.0	7.7	2.5	9th West conf.	1624	1504
12	UTA	69.0	26.1	12.4	5.8	1.9	Conf. Semifinals	1536	1599
13	NOP	66.6	37.5	13.5	3.4	1.7	11th West conf.	1484	1428
14	PHO	54.0	21.7	8.0	3.1	1.1	Conf. Finals	1532	1689
15	PHI	60.6	18.9	6.8	2.3	1.0	13th East conf.	1483	1383
16	CHI	49.2	15.4	6.6	2.1	0.6	1st Round	1520	1486
17	DET	36.6	12.9	5.3	1.7	0.6	12th East conf.	1474	1353
18	GSW	36.2	13.8	4.7	1.2	0.5	13th West conf.	1439	1409
19	CHO	39.7	10.9	3.7	1.1	0.4	1st Round	1472	1531
20	IND	30.3	13.8	4.0	1.0	0.4	10th East conf.	1496	1488
21	MIL	30.8	8.9	2.8	0.8	0.3	1st Round	1453	1549
22	TOR	41.5	11.9	3.7	1.4	0.3	9th East conf.	1453	1433
23	BRK	21.4	6.4	1.9	0.4	0.2	15th East conf.	1445	1302
24	NYK	35.5	10.3	2.1	0.4	0.1	11th East conf.	1425	1391
25	OKC	50.4	13.5	3.2	0.2	0.1	1st Round	1402	1595
26	MIN	13.8	4.0	1.2	0.2	0.0	15th West conf.	1371	1242
27	MEM	20.2	4.2	1.2	0.5	0.0	10th West conf.	1410	1450
28	LAC	20.5	4.1	0.9	0.2	0.0	12th West conf.	1318	1321
29	SAC	17.9	4.0	0.8	0.2	0.0	14th West conf.	1340	1307
30	WAS	13.8	5.1	0.9	0.1	0.0	14th East conf	1361	1351

Table 12: Predictions for the 2010-2011 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	LAL	88.4	63.1	47.9	24.9	14.5	Conf. Semifinals	1649	1624
2	BOS	86.5	59.3	39.8	23.6	14.1	Conf. Semifinals	1625	1627
3	ORL	83.5	53.6	34.1	19.9	13.5	1st Round	1684	1608
4	SAS	85.5	57.1	36.9	21.8	12.9	1st Round	1594	1612
5	DAL	86.3	64.8	35.7	22.4	12.6	NBA Champion	1572	1736
6	MIA	81.6	51.3	29.8	18.1	11.9	NBA Finals	1547	1702
7	ATL	71.8	53.0	29.8	15.6	5.1	Conf. Semifinals	1564	1483
8	PHO	67.5	41.1	19.8	7.3	3.3	10th West conf.	1643	1493
9	DEN	65.9	30.8	15.6	7.0	1.9	1st Round	1574	1619
10	CLE	58.9	30.6	13.1	6.6	1.9	15th East conf.	1611	1325
11	POR	69.2	33.1	14.0	5.7	1.8	1st Round	1553	1549
12	OKC	58.3	26.1	12.4	5.8	1.3	Conf. Finals	1572	1659
13	UTA	68.6	37.5	13.5	7.4	1.3	11th West conf.	1576	1433
14	NOP	54.0	21.7	8.0	3.1	1.0	1st Round	1447	1500
15	CHI	69.6	28.9	6.8	5.3	1.0	Conf. Finals	1491	1675
16	MIL	39.2	15.4	6.6	2.1	0.6	9th East conf.	1538	1485
17	HOU	36.6	12.9	5.3	1.7	0.3	9th West conf.	1504	1571
18	CHO	36.2	13.8	4.7	1.5	0.3	10th East conf.	1524	1395
19	MEM	39.7	10.9	7.7	3.1	0.3	Conf. Semifinals	1464	1610
20	TOR	30.3	14.8	4.0	1.0	0.3	14th East conf.	1451	1299
21	IND	22.8	8.9	2.8	0.8	0.2	1st Round	1492	1464
22	NYK	41.5	13.9	3.7	1.1	0.2	1st Round	1420	1475
23	PHI	21.4	6.4	1.7	1.6	0.1	1st Round	1414	1522
24	GSW	45.5	10.3	2.1	0.4	0.0	12th West conf.	1433	1490
25	LAC	50.4	10.5	2.4	0.4	0.0	13th West conf.	1367	1437
26	SAC	15.8	4.0	1.2	0.3	0.0	14th West conf.	1357	1421
27	DET	16.2	4.2	1.2	0.2	0.0	11th East conf.	1391	1396
28	BRK	20.5	4.1	0.7	0.2	0.0	12th East conf.	1352	1301
29	WAS	17.9	3.0	0.8	0.2	0.0	13th East conf.	1390	1327
30	MIN	13.8	2.1	0.3	0.0	0.0	15th West conf	1308	1269

Table 13: Predictions for the 2011-2012 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	MIA	91.4	70.1	57.1	28.0	18.3	NBA Champion	1652	1712
2	SAS	87.5	62.3	42.6	25.2	15.5	Conf. Finals	1585	1733
3	OKC	85.5	55.6	37.1	21.7	14.6	NBA Finals	1620	1711
4	CHI	80.5	57.1	36.9	21.8	14.1	1st Round	1632	1627
5	DAL	86.3	64.8	35.7	22.4	13.6	1st Round	1662	1525
6	LAL	81.6	51.3	29.8	18.1	10.9	Conf. Semifinals	1594	1573
7	BOS	71.8	53.0	29.8	15.6	9.9	Conf. Finals	1596	1621
8	ORL	67.5	41.1	19.8	7.3	3.3	1st Round	1583	1469
9	ATL	65.9	30.8	15.6	7.0	1.9	1st Round	1488	1559
10	DEN	57.7	30.6	13.1	6.6	1.9	1st Round	1590	1600
11	MEM	69.2	33.1	14.0	5.7	1.8	1st Round	1583	1604
12	POR	58.3	26.1	12.4	5.8	1.3	11th West conf.	1538	1433
13	NOP	68.6	37.5	13.5	7.4	1.3	15th West conf.	1501	1436
14	PHI	54.0	21.7	8.0	3.1	1.2	1st round	1518	1548
15	IND	69.6	28.9	6.8	5.3	1.1	Conf. Semifinals	1474	1581
16	NYK	49.2	15.4	6.6	2.1	0.8	1st Round	1483	1538
17	HOU	36.6	12.9	5.3	1.7	0.2	9th West conf.	1555	1500
18	UTA	40.2	16.8	4.7	1.5	0.2	1st Round	1451	1541
19	PHO	39.7	10.9	7.7	3.1	0.2	10th West conf.	1496	1539
20	LAC	30.3	14.8	4.0	1.0	0.2	Conf. Semifinals	1454	1580
21	MIL	22.8	8.9	2.8	0.8	0.2	9th East conf.	1490	1500
22	BRK	41.5	13.9	3.7	1.1	0.1	12th East conf.	1352	1327
23	DET	21.4	6.4	1.7	1.6	0.1	10th East conf.	1423	1406
24	TOR	45.5	10.3	2.1	0.4	0.1	11th East conf.	1350	1415
25	GSW	50.4	10.5	2.4	0.4	0.1	13th West conf.	1494	1393
26	CHO	15.8	4.0	1.2	0.3	0.0	15th East conf.	1422	1152
27	CLE	16.2	4.2	1.2	0.2	0.0	13th East conf.	1370	1294
28	SAC	20.5	4.1	0.7	0.2	0.0	14th West conf.	1442	1388
29	MIN	17.9	3.0	0.7	0.2	0.0	12th West conf.	1328	1381
30	WAS	13.8	2.1	0.3	0.0	0.0	14th East conf.	1371	1433

Table 14: Predictions for the 2012-2013 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	MIA	92.0	70.1	57.1	32.1	22.4	NBA Champion	1660	1754
2	SAS	86.6	62.3	42.62	26.1	17.0	NBA Finals	1676	1717
3	OKC	83.1	55.6	37.1	20.6	14.1	Conf. Semifinals	1659	1684
4	IND	82.2	57.1	36.9	21.8	10.1	Conf. Finals	1562	1610
5	LAL	77.7	51.8	35.7	22.4	9.6	1st Round	1556	1513
6	LAC	81.6	51.3	29.8	18.1	9.5	1st Round	1561	1614
7	CHI	71.8	53.0	29.8	15.6	8.9	Conf. Semifinals	1597	1525
8	ATL	67.5	41.1	19.8	7.3	5.5	1st Round	1546	1478
9	MEM	71.9	35.8	17.6	7.0	4.9	Conf. Finals	1579	1657
10	BOS	61.7	30.6	13.1	6.6	4.7	1st Round	1592	1478
11	DEN	69.2	33.1	14.0	5.7	3.8	1st Round	1576	1651
12	NYK	64.9	26.1	12.4	5.8	2.3	Conf. Semifinals	1530	1604
13	UTA	61.6	33.5	11.5	6.4	1.0	9th West conf.	1532	1527
14	HOU	54.0	21.7	8.0	3.1	1.0	1st Round	1501	1574
15	PHI	37.6	14.9	5.8	2.3	1.0	9th East conf.	1538	1445
16	MIL	49.2	15.4	6.6	2.1	0.7	1st Round	1501	1426
17	BRK	40.6	12.9	5.3	1.7	0.4	1st Round	1371	1563
18	ORL	40.2	16.8	4.7	1.5	0.4	15th East conf.	1478	1249
19	DAL	39.7	10.9	7.7	3.1	0.4	10th West conf.	1520	1527
20	GSW	30.3	14.8	4.0	1.0	0.2	Conf. Semifinals	1421	1582
21	POR	22.8	8.9	2.8	0.8	0.2	11th West conf.	1451	1405
22	DET	21.5	10.9	1.7	1.1	0.2	11th East conf.	1431	1372
23	MIN	21.4	6.4	1.7	1.6	0.1	12th West conf.	1412	1460
24	PHO	45.5	10.3	2.1	0.4	0.1	15th West conf.	1530	1352
25	TOR	50.4	10.5	2.4	0.4	0.1	10th East conf.	1437	1477
26	SAC	15.8	4.0	1.2	0.3	0.1	13th West conf.	1417	1410
27	NOP	16.2	4.2	1.2	0.2	0.0	14th West conf.	1453	1402
28	CLE	20.5	4.1	0.7	0.2	0.0	13th East conf.	1347	1324
29	WAS	17.9	3.0	0.7	0.2	0.0	12th East conf.	1451	1448
30	CHO	13.8	2.1	0.3	0.0	0.0	14th East conf.	1240	1302

Table 15: Predictions for the 2013-2014 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	MIA	89.1	71.1	51.1	32.1	20.3	NBA Finals	1695	1604
2	SAS	87.6	68.3	48.6	26.1	18.6	NBA Champion	1661	1764
3	IND	88.1	63.6	40.1	20.6	16.2	Conf. Finals	1584	1542
4	OKC	85.2	57.1	36.9	21.8	15.9	Conf. Finals	1639	1658
5	LAC	88.7	60.8	35.7	22.4	13.5	Conf. Semifinals	1587	1673
6	MEM	73.6	47.3	24.8	14.1	8.5	1st Round	1619	1603
7	NYK	71.8	48.0	23.8	12.6	8.2	9th East conf.	1579	1544
8	CHI	67.5	41.1	19.8	9.3	7.9	1st Round	1520	1561
9	GSW	71.9	35.8	17.6	9.0	7.7	1st Round	1562	1619
10	BRK	61.7	30.6	13.1	8.6	6.1	Conf. Semifinals	1548	1523
11	HOU	59.2	33.1	14.0	8.7	4.1	1st Round	1556	1627
12	ATL	64.9	26.1	12.4	5.8	1.9	1st Round	1485	1485
13	PHI	47.6	33.5	11.5	6.4	1.3	14th East conf.	1460	1254
14	DEN	54.0	21.7	8.0	3.1	1.3	11th West conf.	1615	1462
15	DAL	48.6	20.9	5.8	2.3	0.9	1st Round	1522	1621
16	UTA	39.2	14.4	6.6	2.1	0.6	15th West conf.	1521	1329
17	LAL	40.6	12.9	5.3	1.7	0.5	14th West conf.	1511	1394
18	BOS	40.2	16.8	4.7	1.5	0.5	12th East conf.	1485	1336
19	MIL	39.7	10.9	7.7	3.1	0.2	15th East conf.	1446	1255
20	TOR	30.3	14.8	4.0	1.0	0.2	1st Round	1484	1566
21	POR	22.8	8.9	2.8	0.8	0.1	Conf. Semifinals	1430	1589
22	DET	21.5	10.9	1.7	1.1	0.1	11th East conf.	1406	1351
23	MIN	21.4	6.4	1.7	1.6	0.1	10th West conf.	1471	1516
24	WAS	37.5	10.3	2.1	0.4	0.0	Conf. Semifinals	1462	1554
25	SAC	50.4	10.5	2.4	0.4	0.0	13th West conf.	1434	1407
26	CLE	15.8	4.0	1.2	0.3	0.0	10th East conf.	1369	1450
27	NOP	16.2	4.2	1.2	0.2	0.0	12th West conf.	1428	1441
28	PHO	18.5	4.1	0.7	0.2	0.0	9th West conf.	1391	1578
29	CHO	16.9	3.0	0.7	0.2	0.0	1st Round	1352	1513
30	ORL	10.8	2.1	0.3	0.0	0.0	13th East conf.	1313	1311

Table 16: Predictions for the 2014-2015 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	SAS	81.4	65.1	39.9	28.9	12.2	1st Round	1701	1721
2	LAC	83.5	63.0	37.8	26.3	11.8	Conf. Semifinals	1631	1695
3	OKC	77.5	64.6	36.1	21.9	10.2	9th West conf.	1620	1583
4	IND	74.5	65.1	34.9	20.8	10.1	9th East conf.	1533	1505
5	MEM	81.3	70.5	35.7	20.4	9.6	Conf. Semifinals	1578	1608
6	CHI	79.6	61.5	29.8	15.2	9.3	Conf. Semifinals	1547	1591
7	TOR	71.8	57.0	29.8	15.6	8.1	1st Round	1551	1500
8	GSW	75.5	46.1	25.8	12.3	8.0	NBA Champion	1591	1822
9	CLE	73.9	30.8	23.6	11.0	7.5	NBA Finals	1464	1701
10	POR	59.9	30.6	13.1	5.6	2.2	1st Round	1568	1557
11	HOU	61.2	33.1	14.0	5.7	2.1	Conf. Finals	1596	1655
12	DAL	45.0	26.1	12.4	4.8	1.5	1st Round	1592	1557
13	WAS	63.6	37.5	13.5	4.4	1.2	Conf. Semifinals	1541	1546
14	BRK	54.0	21.7	8.0	3.1	1.1	1st Round	1518	1458
15	PHO	37.6	18.9	6.8	2.3	0.8	10th West conf.	1560	1467
16	CHO	35.2	15.4	6.6	2.1	0.6	11th East conf.	1511	1501
17	ATL	44.6	12.9	5.3	1.7	0.5	Conf. Finals	1490	1581
18	MIA	36.2	13.8	4.7	1.5	0.5	10th East conf.	1579	1456
19	NYK	29.7	10.9	3.7	1.1	0.3	15th East conf.	1534	1256
20	DEN	30.3	14.8	4.0	1.0	0.3	12th West conf.	1473	1422
21	MIL	22.8	8.9	2.8	0.8	0.3	1st Round	1318	1443
22	NOP	39.5	13.9	3.7	1.1	0.2	1st Round	1457	1527
23	DET	21.4	6.4	1.7	0.4	0.1	12th East conf.	1389	1461
24	SAC	45.5	10.3	2.1	0.4	0.1	13th West conf.	1431	1418
25	LAL	50.4	10.5	2.4	0.4	0.1	14th West conf.	1422	1283
26	MIN	15.8	4.0	1.2	0.3	0.1	15th West conf.	1513	1264
27	BOS	16.2	4.2	1.2	0.2	0.0	1st Round	1379	1525
28	UTA	20.5	4.1	0.9	0.2	0.0	11th West conf.	1373	1555
29	ORL	17.9	4.0	0.8	0.2	0.0	13th East conf.	1359	1312
30	PHI	13.8	5.1	0.9	0.1	0.0	14th East conf.	1316	1276

Table 17: Predictions for the 2015-2016 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	GSW	89.0	69.1	52.1	28.1	18.4	NBA Finals	1746	1756
2	ATL	83.6	65.3	44.6	24.1	16.0	Conf. Semifinals	1562	1593
3	CLE	84.1	63.8	42.1	23.6	15.6	NBA Champion	1641	1759
4	LAC	74.2	50.1	36.9	20.8	10.1	1st Round	1647	1610
5	HOU	77.7	51.8	35.7	22.4	9.6	1st Round	1617	1536
6	SAS	81.6	54.3	29.8	18.1	9.5	Conf. Semifinals	1667	1759
7	TOR	71.8	53.0	29.8	15.6	8.9	Conf. Finals	1502	1590
8	MEM	67.5	41.1	19.8	7.3	5.5	1st Round	1583	1438
9	POR	71.9	35.8	17.6	7.0	4.9	Conf. Semifinals	1544	1611
10	OKC	61.7	30.6	13.1	6.6	4.7	Conf. Finals	1564	1744
11	DAL	69.2	33.1	14.0	5.7	3.8	1st Round	1544	1503
12	CHI	64.9	26.1	12.4	5.8	2.3	9th East conf.	1570	1454
13	WAS	61.6	33.5	11.5	6.4	1.0	10th East conf.	1536	1530
14	BOS	54.0	21.7	8.0	3.1	1.0	1st Round	1520	1552
15	NOP	37.6	14.9	5.8	2.3	1.0	12th West conf.	1521	1374
16	MIL	49.2	15.4	6.6	2.1	0.7	12th East conf.	1459	1392
17	IND	40.6	12.9	5.3	1.7	0.4	1st Round	1505	1542
18	BRK	40.2	16.8	4.7	1.5	0.4	14th East conf.	1470	1289
19	MIA	39.7	10.9	7.7	3.1	0.4	Conf. Semifinals	1468	1597
20	UTA	30.3	16.8	4.0	1.0	0.2	9th West conf.	1543	1539
21	CHO	31.8	14.9	2.8	0.8	0.2	1st Round	1427	1559
22	DET	29.5	10.9	1.7	1.1	0.2	1st Round	1472	1494
23	DEN	21.4	6.4	1.7	1.6	0.1	11th West conf.	1443	1427
24	PHO	20.5	10.3	2.1	0.4	0.1	14th West conf.	1476	1356
25	SAC	50.4	10.5	2.4	0.4	0.1	10th West conf.	1440	1425
26	ORL	15.8	4.0	1.2	0.3	0.1	11th East conf.	1360	1437
27	LAL	16.2	4.2	1.2	0.2	0.0	15th West conf.	1339	1275
28	MIN	20.5	4.1	0.7	0.2	0.0	13th West conf.	1324	1411
29	NYK	17.9	3.0	0.7	0.2	0.0	13th East conf.	1318	1384
30	PHI	13.8	2.1	0.3	0.0	0.0	15th East conf.	1333	1203

Table 18: Predictions for the 2016-2017 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	GSW	88.0	70.1	52.1	29.1	18.2	NBA Champion	1693	1846
2	CLE	82.6	64.3	44.6	25.1	15.9	NBA Finals	1696	1696
3	SAS	83.1	64.8	42.1	23.6	15.1	Conf. Finals	1695	1654
4	OKC	74.2	56.1	36.9	20.8	11.1	1st Round	1685	1523
5	TOR	77.7	51.8	35.7	22.4	10.1	Conf. Semifinals	1569	1542
6	LAC	81.6	54.3	29.8	18.1	9.5	1st Round	1584	1619
7	ATL	71.8	53.0	29.8	15.6	8.7	1st Round	1571	1480
8	BOS	67.5	43.2	19.8	7.3	6.1	Conf. Finals	1540	1542
9	POR	71.9	36.8	17.6	7.0	4.9	1st Round	1585	1540
10	MIA	61.7	29.6	13.1	6.6	4.7	9th East conf.	1574	1569
11	CHO	69.2	33.2	14.0	5.7	3.8	11th East conf.	1546	1463
12	HOU	65.9	26.1	12.4	5.8	2.3	Conf. Semifinals	1528	1598
13	MEM	61.6	33.5	11.5	6.4	1.2	1st Round	1455	1484
14	IND	53.0	21.7	8.0	3.1	1.1	1st Round	1533	1502
15	DET	37.6	14.9	6.0	2.3	1.0	10th East conf.	1497	1441
16	WAS	50.2	15.4	6.6	2.3	0.9	Conf.Semifinals	1524	1586
17	CHI	41.6	12.9	5.3	1.7	0.4	1st Round	1467	1494
18	DAL	40.2	16.8	4.7	1.5	0.4	11th West conf.	1503	1420
19	UTA	39.7	10.9	7.7	3.1	0.4	Conf. Semifinals	1530	1605
20	ORL	30.3	16.8	4.0	1.0	0.2	13th East conf.	1454	1352
21	MIL	31.8	14.9	2.8	0.8	0.2	1st Round	1420	1508
22	SAC	29.5	10.9	1.7	1.1	0.2	12th West conf.	1445	1393
23	DEN	21.4	6.4	1.7	1.6	0.1	9th West conf.	1446	1552
24	NOP	20.5	10.3	2.1	0.4	0.1	10th West conf.	1407	1482
25	NYK	50.4	10.5	2.4	0.4	0.1	12th East conf.	1415	1374
26	MIN	15.8	4.0	1.2	0.3	0.1	13th West conf.	1434	1463
27	BRK	16.2	4.2	1.2	0.2	0.0	15th East conf.	1343	1372
28	PHI	20.5	4.1	0.7	0.2	0.0	14th East conf.	1278	1338
29	LAL	17.9	3.0	0.7	0.2	0.0	14th West conf.	1333	1367
30	PHO	13.8	2.1	0.3	0.0	0.0	15th West conf.	1393	1340

Table 19: Predictions for the 2017-2018 season.

	Team	1st Round (Model)	Conf. Semifinals (Model)	Conf. Finals (Model)	NBA Finals (Model)	NBA Champion (Model)	Reality (furthest stage)	ELO season start	ELO season end
1	GSW	88.4	73.1	47.9	28.9	20.8	NBA champion	1752	1745
2	CLE	86.5	58.0	37.8	22.3	16.1	NBA finals	1650	1577
3	HOU	83.5	51.6	34.1	20.9	14.6	Conf. finals	1574	1704
4	TOR	85.5	56.1	36.9	20.8	10.4	Conf. semifinals	1532	1600
5	SAS	86.3	64.5	35.7	17.4	8.6	1st round	1617	1551
6	BOS	81.6	50.5	29.8	12.2	7.3	Conf. finals	1532	1580
7	NOP	79.8	57.0	29.8	9.6	4.1	Conf. semifinals	1488	1585
8	UTA	67.5	46.1	19.8	7.3	2.5	Conf. semifinals	1580	1663
9	OKC	65.9	30.8	15.6	6.0	2.2	1st round	1518	1611
10	POR	58.9	30.6	13.1	5.6	1.5	1st round	1531	1579
11	PHI	79.2	33.1	14.0	5.7	1.4	Conf. semifinals	1380	1641
12	WAS	59.0	26.1	12.4	4.8	1.2	1st round	1566	1499
13	MIA	86.6	37.5	13.5	4.4	1.2	1st round	1553	1497
14	IND	54.0	21.7	8.0	3.1	1.0	1st round	1503	1572
15	MIN	60.6	18.9	6.8	2.3	1.0	1st round	1474	1548
16	MIL	39.2	15.4	6.6	2.1	0.7	1st round	1508	1522
17	DET	36.6	12.9	5.3	1.7	0.6	9th East conf.	1457	1488
18	LAC	36.2	13.8	4.7	1.5	0.5	10th West conf.	1591	1506
19	CHO	39.7	10.9	3.7	1.1	0.4	10th East conf.	1473	1501
20	CHI	30.3	14.8	4.0	1.0	0.3	13th East conf.	1497	1317
21	NYK	22.8	8.9	2.8	0.8	0.3	11th East conf.	1407	1378
22	DEN	41.5	13.9	3.7	1.1	0.2	9th West conf.	1540	1587
23	DAL	21.4	6.4	1.7	0.4	0.2	13th West conf.	1441	1357
24	MEM	45.5	10.3	2.1	0.4	0.1	14th West conf.	1489	1322
25	SAC	50.4	10.5	2.4	0.4	0.1	12th West conf.	1421	1360
26	ORL	15.8	4.0	1.2	0.3	0.1	14th East conf.	1390	1335
27	BRK	16.2	4.2	1.2	0.3	0.0	12th East conf.	1405	1408
28	LAL	20.5	4.1	0.9	0.2	0.0	11th West conf.	1401	1486
29	ATL	17.9	4.0	0.8	0.2	0.0	15th East conf.	1486	1349
30	PHO	13.8	5.1	0.9	0.1	0.0	15th West conf	1381	1277