**Reference of Useful Links**

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# Data Sources

## Main stats

* NBA.com (Use NBA API to gather data)
  + <https://ca.global.nba.com/statistics/?_ga=2.105778048.284049061.1614831989-1843647916.1614831989>
  + <https://www.nba.com/game/por-vs-cha-0021800944/play-by-play>
* NBA advanced stats
  + <https://www.nba.com/stats/players/advanced/?sort=GP&dir=-1>
* Basketball Reference (alternative source for basketball data)
  + <https://www.basketball-reference.com/>
* NBA Play-by-Play Data 2015-2021 (From the 2015-2016 season to the 2020-2021 season)
  + <https://www.kaggle.com/schmadam97/nba-playbyplay-data-20182019>

## NBA Salaries

* ESPN - NBA Player Salaries
  + <http://www.espn.com/nba/salaries>
* NBA Player Salaries | HoopsHype
  + <https://hoopshype.com/salaries/players/>
* NBA Player Contracts
  + <https://www.basketball-reference.com/contracts/players.html>

# Data gathering methods / tutorials

* Swar / nba\_api – Table of Contents
  + <https://github.com/swar/nba_api/blob/master/docs/table_of_contents.md>
  + Working With Play by Play
    - <https://github.com/swar/nba_api/blob/master/docs/examples/PlayByPlay.ipynb>
* How to Get NBA Data Using the nba\_api Python Module (Beginner)
  + <https://www.playingnumbers.com/2019/12/how-to-get-nba-data-using-the-nba_api-python-module-beginner/>
* HOW TO PULL NBA PLAYER GAMELOG DATA USING PYTHON AND NBA\_API
  + <https://www.canadabasketballanalytics.com/2020/08/18/how-to-pull-nba-player-gamelog-data-using-python-and-nba_api/>
* Extracting and Analyzing 1000 Basketball Games using Pandas and Chartify
  + <https://www.analyticsvidhya.com/blog/2019/05/scraping-nba-data-analyze-1000-basketball-games-python/>

# Analysis

## Salaries

* Linking NBA Salary to Performance: Sample Player Analysis With Python
  + <https://morioh.com/p/299943aca462>
* NBA Players Salary Prediction
  + <https://www.kaggle.com/rikdifos/nba-players-salary-prediction>
* Salary Caps
  + The salary cap for the 2020-21 NBA season is projected to rise to $115 million
    - <https://bleacherreport.com/articles/2873875-report-updated-2020-21-nba-salary-cap-luxury-tax-projections-revealed#:~:text=The%20salary%20cap%20for%20the,initial%20projection%20of%20%24116%20million>.
  + Toronto Raptor salary cap
    - <https://www.spotrac.com/nba/toronto-raptors/cap/>

## Formulas

* LEARN A STAT: WIN SHARE
  + <https://hackastat.eu/en/learn-a-stat-win-share-en/>
* Understanding the NBA: Explaining Advanced Offensive Stats and Metrics
  + <https://bleacherreport.com/articles/1039116-understanding-the-nba-explaining-advanced-offensive-stats-and-metrics>
* Understanding the NBA: Explaining Advanced Defensive Stats and Metrics
  + <https://bleacherreport.com/articles/1040309-understanding-the-nba-explaining-advanced-defensive-stats-and-metrics>

## Examples / Ideas / References

* Final Case Competition - NBA Analytics
  + <https://www.slideshare.net/RobertMoras/final-case-competition-nba-analytics>
* DataBall - Using stats to predict NBA game winners
  + <https://klane.github.io/databall1/>
* Building My First Machine Learning Model | NBA Prediction Algorithm
  + <https://towardsdatascience.com/building-my-first-machine-learning-model-nba-prediction-algorithm-dee5c5bc4cc1>
* Interesting Data science projects with stats?
  + <https://www.reddit.com/r/nba/comments/8lvqkn/interesting_data_science_projects_with_stats/>
* Interesting Data science projects with stats?
  + <https://www.reddit.com/r/datascience/comments/gjy5ub/nba_data_science_project_ideas/>

## Tools

### Tableau

* HOW TO EMBED TABLEAU DASHBOARD IN A POWERPOINT PRESENTATION
  + <https://vizartpandey.com/how-to-embed-tableau-dashboard-in-a-powerpoint-presentation/>
* NBA Shot Charts Part 2: Building the viz in Tableau
  + <https://datavizardry.com/2020/02/03/nba-shot-charts-part-2/>

### Models

* Introduction to Random Forest Classifiers - Predicting the position of NBA players
  + <https://towardsdatascience.com/introduction-to-random-forest-classifiers-9a3b8d8d3fa7>
* Choosing the Best Algorithm for your Classification Model
  + <https://medium.datadriveninvestor.com/choosing-the-best-algorithm-for-your-classification-model-7c632c78f38f>
* Using XGBoost in Python
  + <https://www.datacamp.com/community/tutorials/xgboost-in-python>
* Hyperparameter Tuning the Random Forest in Python
  + <https://towardsdatascience.com/hyperparameter-tuning-the-random-forest-in-python-using-scikit-learn-28d2aa77dd74>
* Complete Guide to Parameter Tuning in XGBoost with codes in Python
  + <https://www.analyticsvidhya.com/blog/2016/03/complete-guide-parameter-tuning-xgboost-with-codes-python/>
* How to save and load Random Forest from Scikit-Learn in Python? (IMPORTANT)
  + <https://mljar.com/blog/save-load-random-forest/>
* Save and Load Machine Learning Models in Python with scikit-learn
  + <https://machinelearningmastery.com/save-load-machine-learning-models-python-scikit-learn/>
  + Did not work as well as previous link

### Model Tuning

* Tuning the parameters of your Random Forest model
  + <https://www.analyticsvidhya.com/blog/2015/06/tuning-random-forest-model/>
* How to optimize hyper parameters of a Logistic Regression model using Grid Search in Python?
  + <https://www.dezyre.com/recipes/optimize-hyper-parameters-of-logistic-regression-model-using-grid-search-in-python>

### Encoding

* Categorical encoding using Label-Encoding and One-Hot-Encoder
  + <https://towardsdatascience.com/categorical-encoding-using-label-encoding-and-one-hot-encoder-911ef77fb5bd>
* Choosing the right Encoding method-Label vs OneHot Encoder
  + <https://towardsdatascience.com/choosing-the-right-encoding-method-label-vs-onehot-encoder-a4434493149b>
* Guide to Encoding Categorical Values in Python
  + <https://pbpython.com/categorical-encoding.html>

### Graphs

* Make a Simple NBA Shot Chart with Python
  + <https://towardsdatascience.com/make-a-simple-nba-shot-chart-with-python-e5d70db45d0d>

### History on Analytics methods

* <https://en.wikipedia.org/wiki/Sabermetrics>

### Repository

* <https://desktop.github.com/>

### Formatting

* <https://queirozf.com/entries/python-number-formatting-examples>

## Report Tips

* How to Write an Effective Executive Summary
  + <https://www.alchemer.com/resources/blog/how-to-write-executive-summary/>

# Glossary / Terms

* NBA Glossary
  + <https://www.nba.com/stats/help/glossary/>
* HOW TO READ A BOX SCORE
  + <https://jr.nba.com/how-to-read-a-box-score/>
* Wikipedia quick explanation on basketball stats
  + <https://en.wikipedia.org/wiki/Basketball_statistics>
* Basketball Reference - Glossary
  + [https://www.basketball-reference.com/about/glossary.html#:~:text=TOV%25%20%2D%20Turnover%20Percentage%20(available,0.44%20\*%20FTA%20%2B%20TOV).&text=Total%20rebound%20percentage%20is%20an,%2F%20(2%20\*%20TSA)](https://www.basketball-reference.com/about/glossary.html#:~:text=TOV%25%20%2D%20Turnover%20Percentage%20(available,0.44%20*%20FTA%20%2B%20TOV).&text=Total%20rebound%20percentage%20is%20an,%2F%20(2%20*%20TSA))
* Advanced NBA Stats for Dummies: How to Understand the New Hoops Math
  + <https://bleacherreport.com/articles/1813902-advanced-nba-stats-for-dummies-how-to-understand-the-new-hoops-math>