

INFO 6205 Ranking System Project

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# Introduction

## What is Ranking System?

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## About the Premier League

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### Relevant Terms

Xxxxxxxxxx

### 2018–19 Premier League

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# Aim of the Project

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# Project Description

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# Datasets used in the Project

Json Data Set: season-1920.json (from www.football-data.co.uk/englandm.php)

A group of people

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# Implementation

Extract every data model & convert into Team Model

Modeling the data to original model data

Read the original data from json

Loop to do 100K simulation through the Possion simulation

Insert data to the getPossionVariable(), get the simulation data

Iterate the data extract from team model

Ranking teams by sorting the gaming result table by (TranScore, Wins, GoalDiff)

Count all team pairs gaming result from their probability

Calculate the result probability for each team pairs

Implementation of get Possion Variable from Lamda

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Implementation of Monte Carlo method

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Implementation of Sorting

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# Result & Analysis

Output csv file:

1. Ranking tables sorting by Number of game wins, number of Goal difference, Transfer Score. (Transfer Score = 1\*wins + 0.5\*tie + 0\* loss)
2. Tables showing for each team. The probability result of gaming with other teams are shown.
3. By analyzing the data table below, EPL season 2019-2020, the team Liverpool ranks #1 on the 3 kinds of final ranking table. But it will lost some games with high probability. The team Norwich lies on the bottom of the ranking tables.

Ranking By TranScore

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Ranking By Game wins

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Ranking By Game Goal difference

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Team table (Liverpool)

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# Reference

[1] <https://en.wikipedia.org/wiki/Ranking>

[2] <https://www.premierleague.com/>

[3] <https://en.wikipedia.org/wiki/2018%E2%80%9319_Premier_League>

[4] <https://en.wikipedia.org/wiki/Poisson_distribution>

[5] <https://en.wikipedia.org/wiki/Monte_Carlo_method>