Social Media and Network Analytics Assignment 2

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Spoiler alert!!!

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Problem Statement

To analyse the connections between characters from Game of Thrones book "A Dance with Dragons" (book 5) as well as the connections between the actors who perform these roles in the series.
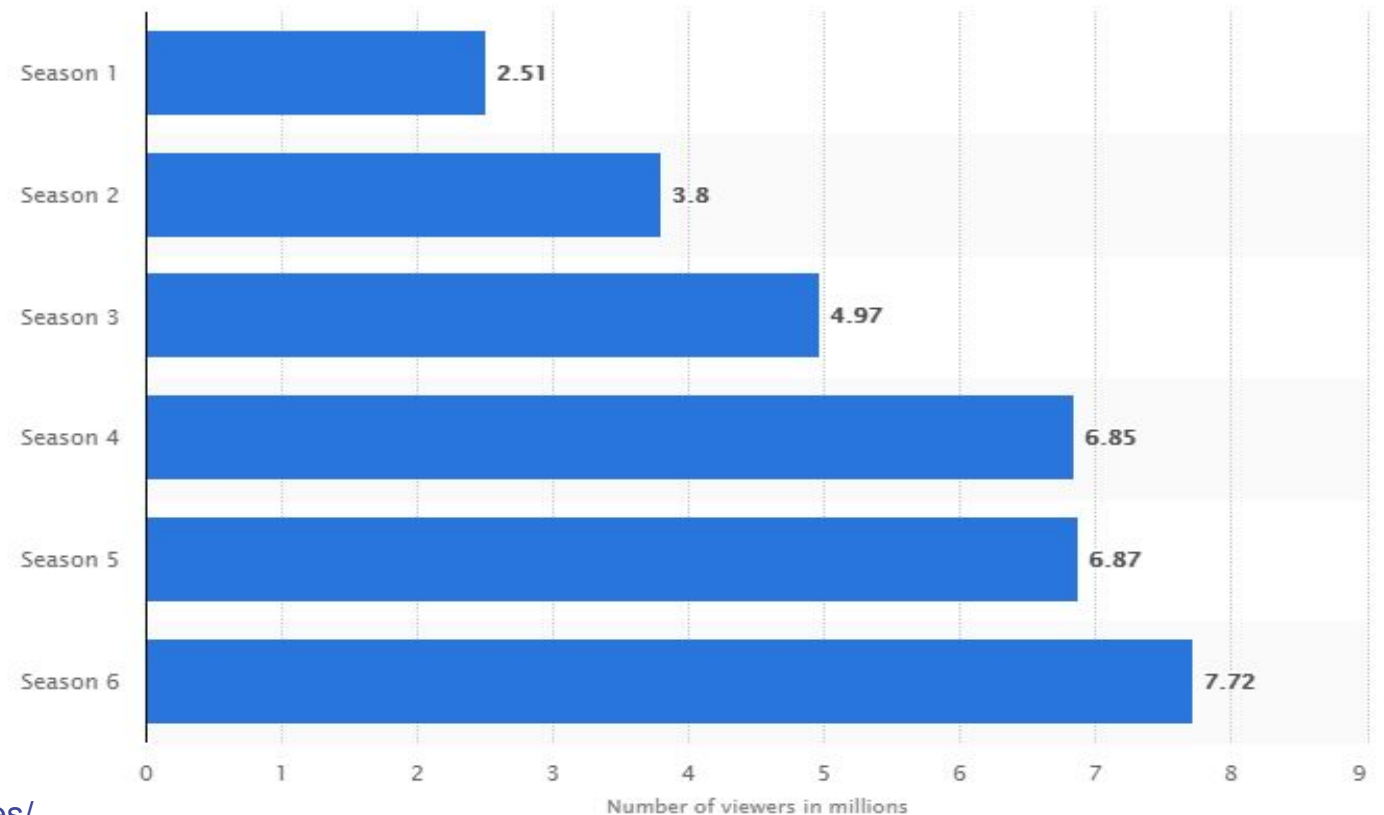

Source Image:

Some background about Game of thrones

- a series of books written by George R. R. Martin
- Well-known for its large ensemble cast
- over 10 million viewers (season 7)
- being nominated for Best Television Series - Drama in Golden Globe Awards (2015-2017)
- 3 hugo awards for Best Dramatic Presentation
- won 12 Primetime Emmy Awards in year 2016
- opening episode of season 7 was mentioned almost 98% thousand times on social media

Number of Game of Thrones viewers per episode in the United States in 2006, by season (in millions)

|	
Season 1	2.51
Season 2	3.8
Season 3	4.97
Season 4	6.85
Season 5	6.87
Season 6	7.72

Number of viewers in millions

Approach

- Descriptive Analysis
- Sentiment Analysis
- Network graph
- Centrality
- Betweenness
- Closeness
- Page rank
- Member-based community detection

Where our data come from??

- A dance with dragons (Book 5)
  - A publicly available dataset with the number of interactions between every combination cf characters in the book
- Actors
  - For each character in the book, Tweets with hashtag of the name of actor was collected from Twitter from 6/5/2018 to 16/5/2018
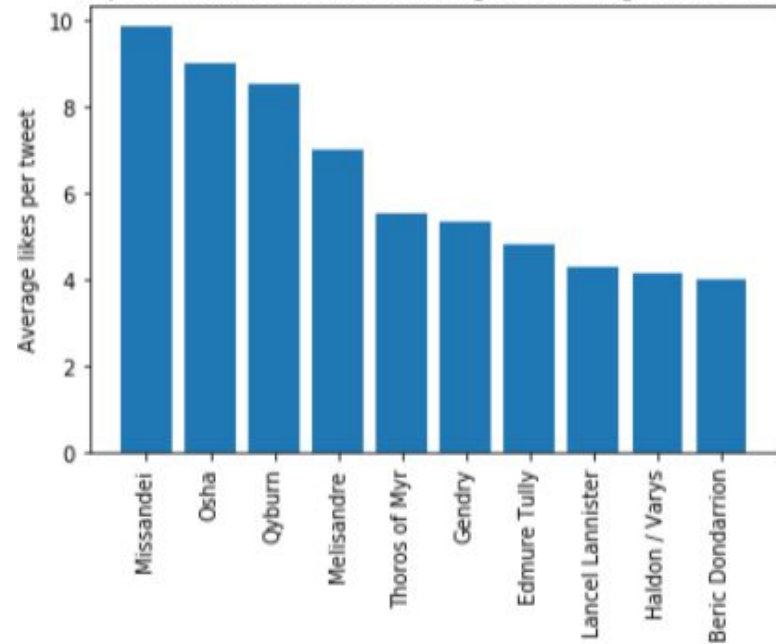 - A list of friends' name of each actor in Twitter

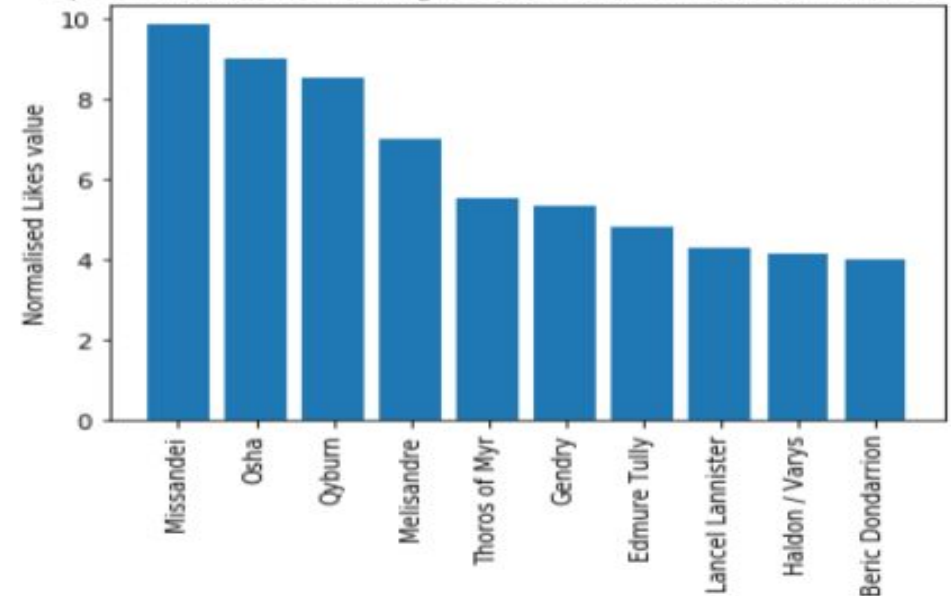Top10 characters with highest mean value of sentiment
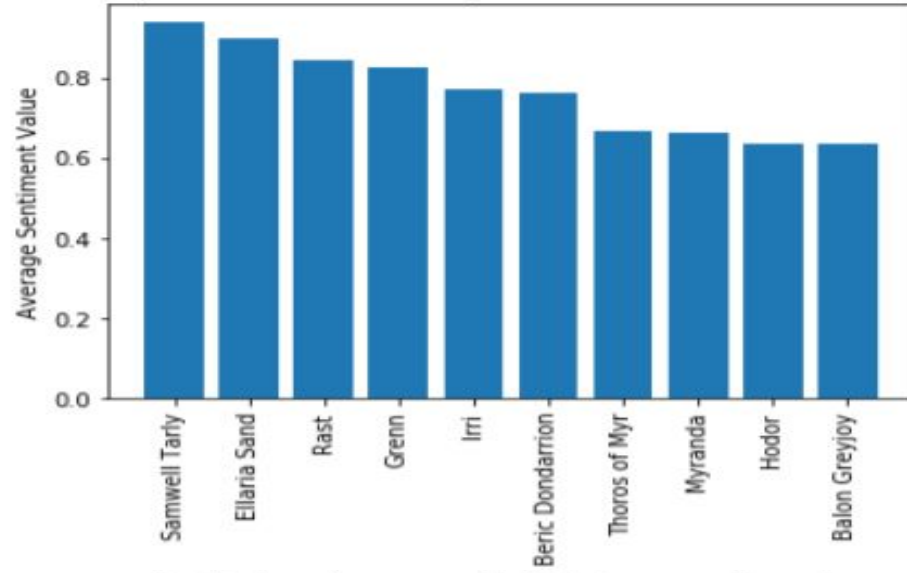
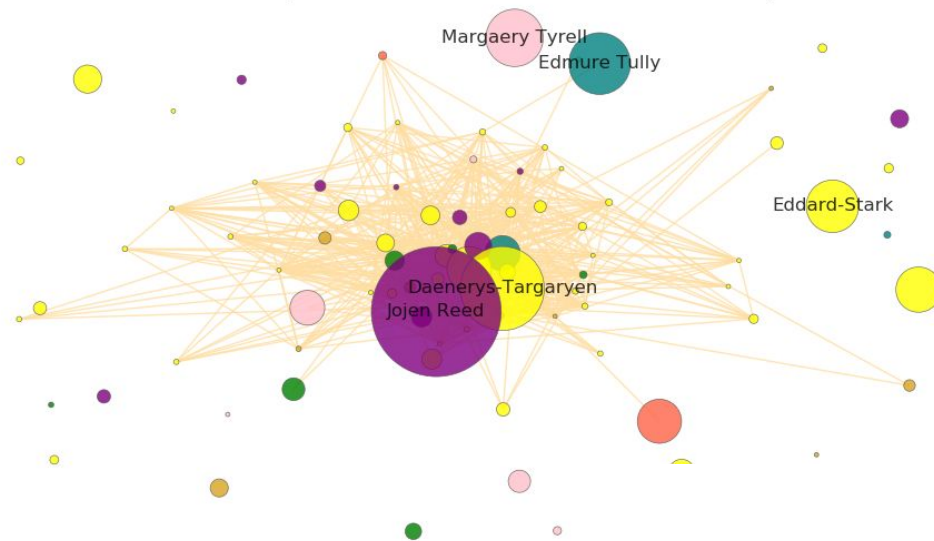Top 10 most frequent timezones in all tweets across characters
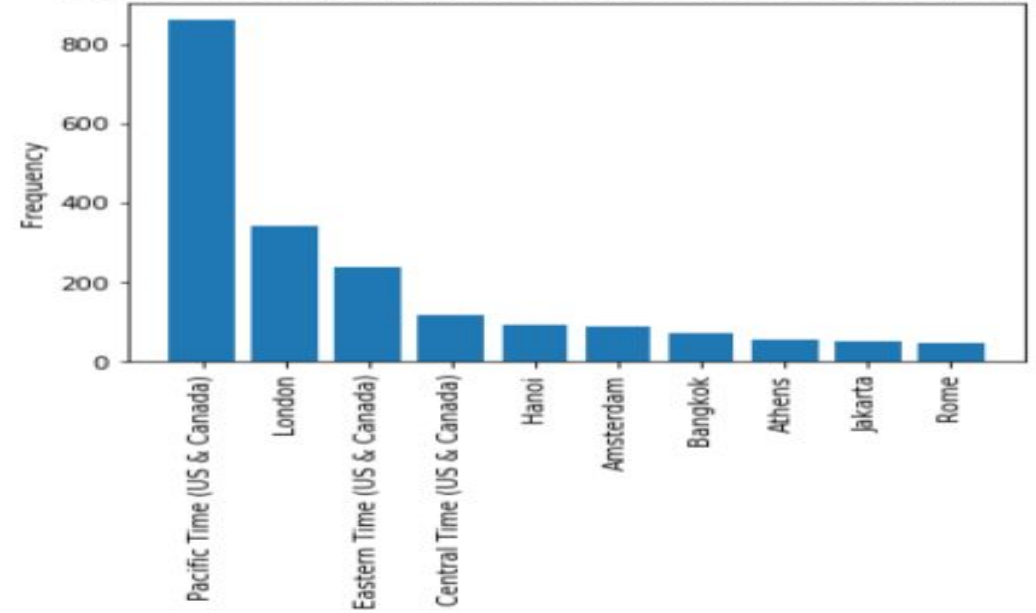
Top 10 character names with highest average likes value

Top 10 characters with highest normalised value of mean of likes

Network Graph for Game of Thrones Twitter Community

Margaery Tyrell
Edmure Tully
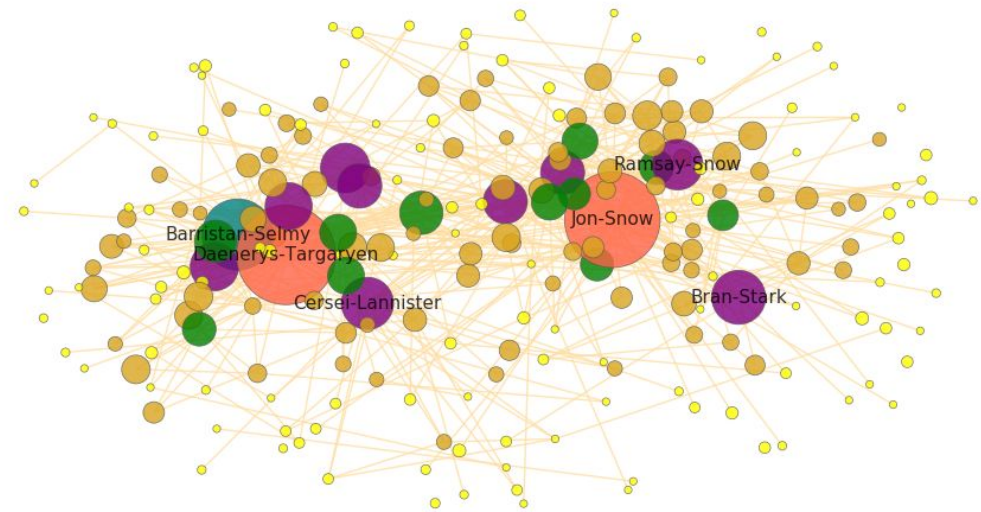
Eddard-Stark

Daenerys-Targaryen
Jojen Reed

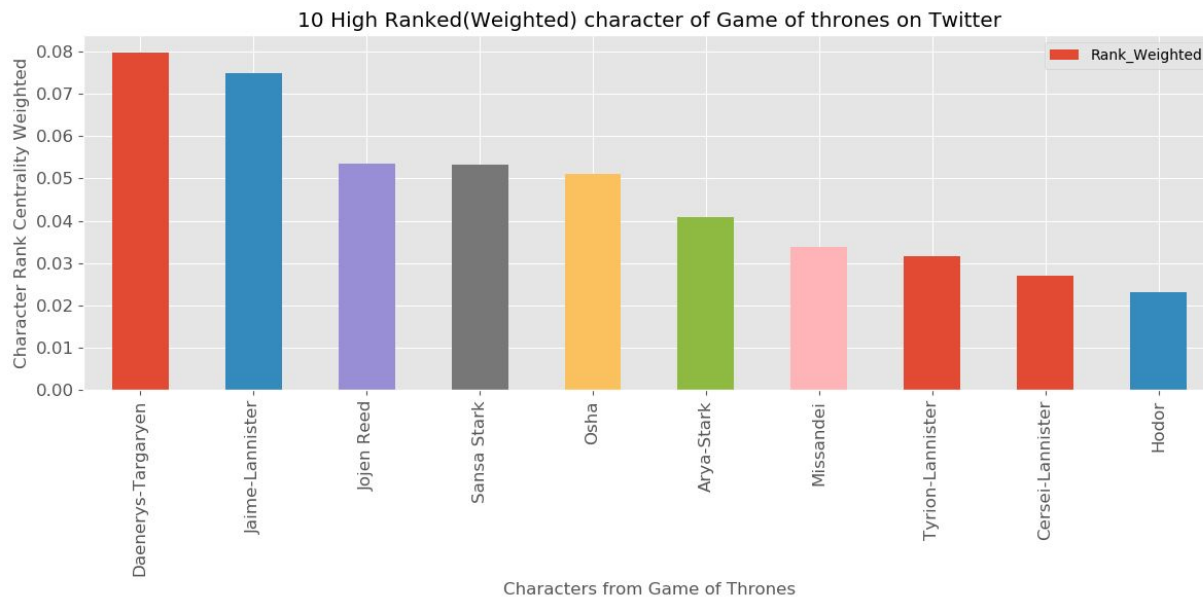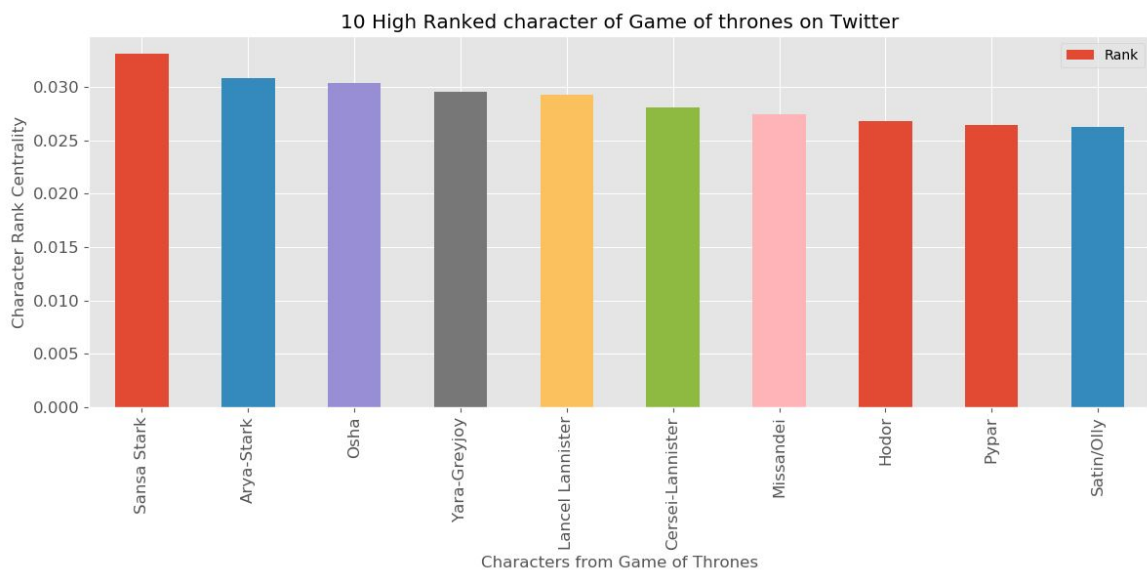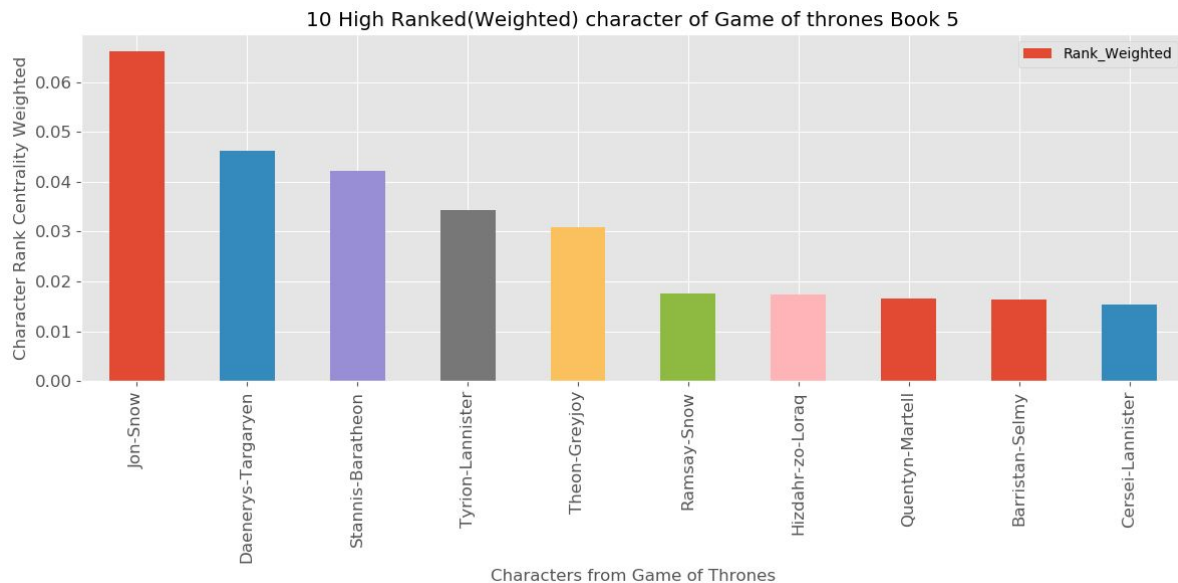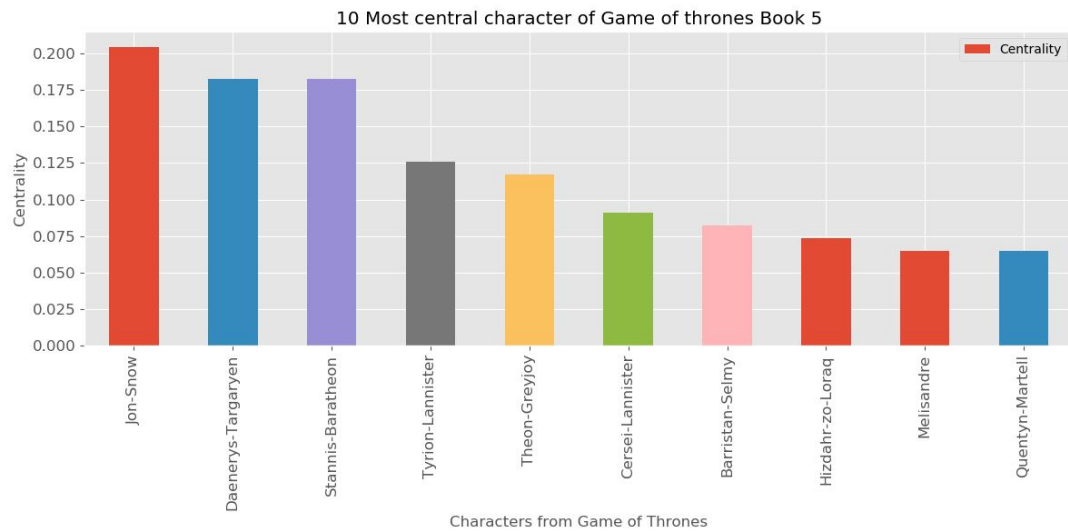The plot on the left shows the network for game of thrones characters who are connected on twitter.
- Size and colour mean the number of user mentions and edges signify the connection.
- The edges are weighed on the basis of tweets between these characters.
- Jojen Reed and Danerys Targaryen are the two biggest mentioned characters of Game of thrones.
- We can see that Eddard Stark, Margaery Tyrell are nodes with bigger sizes but less connections with other character. Could be as they were executed earlier and have less interactions with other character or just by personal preference

The plot on the right shows the network for game of thrones characters and their connections as per Book 5.
- The edges are weighed on the basis of interactions between these characters.
- Jon Snow and Danerys Targaryen are two biggest nodes showing that they could be the most important characters of the Book 5, which is also true.
- They also seem to be part of different networks, which is true as they are actually in different places and are surrounded by different people.

Network Graph for Game of Thrones book Community

Ramsay-Snow

Jon-Snow

Barristan-Selmy
Daenerys-Targaryen

Cersei-Lannister

Bran-Stark

10 Most central character of Game of thrones Book 5

10 High Ranked(Weighted) character of Game of thrones Book 5

10 High Ranked character of Game of thrones on Twitter

**10 High Ranked(Weighted) character of Game of thrones on Twitter**

9 Clique Community for Game of Thrones Twitter Community
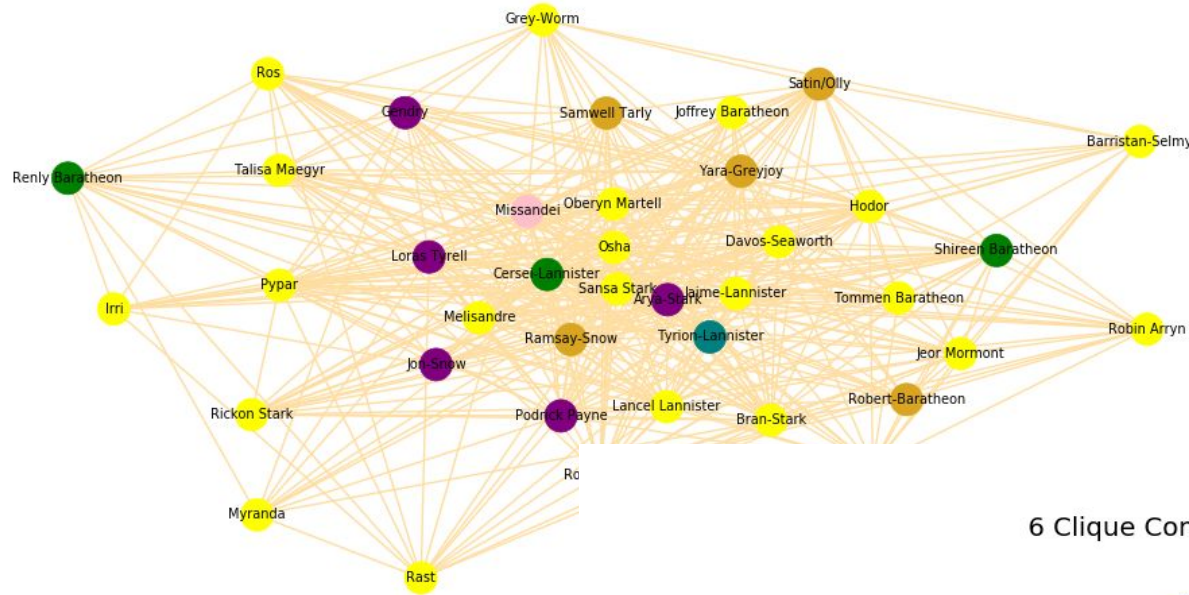
The plot on the left shows the k-clique connections for Game of Thrones character from twitter.

- There are much more connections on twitter than in the book plot below showing the difference between actually interacting and social media connections.
- We can also see that people with most scenes together are closer showing that they are work friends as well as twitter friends.

6 Clique Community for Game of Thrones Book Community
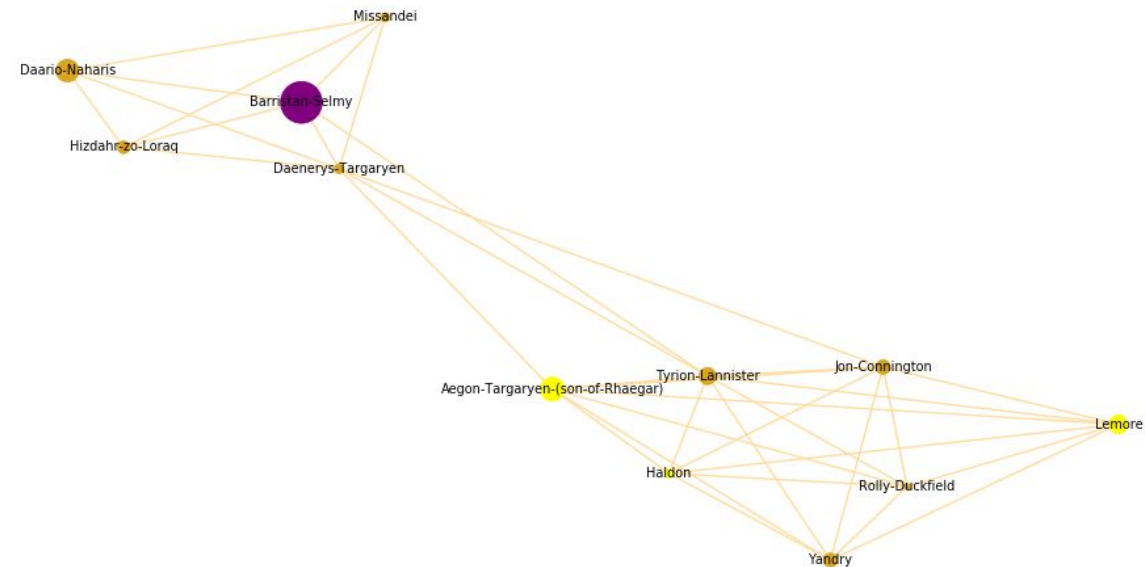
The plot on the right shows the 6-clique connections for Game of Thrones character from Book 5.

- The community makes perfect sense as these character are closely connected as a group have multiple interactions as seen in the book as well.
- We can also see that Danaerys is more loser to certain nodes which is actually her close circle in the book.

Summary

- We can see that we can easily know the positions and groups in the book using network analysis.

- We were also able to prove the centrality of character using network analysis.

- We can clearly see that there is a lot of difference in real work connections and book or series connections (More similar to real life connections before social media?)

- Analysis can not be said as controlled as not all character are online or active on twitter and we can only access public tweets.

- However we do get an idea of centrality and groups of character in real life and books as per the network analysis and graph plots.

Thank you!!! :)

Please be aware that the night is dark and full of terror and obviously WINTER IS COMING!!