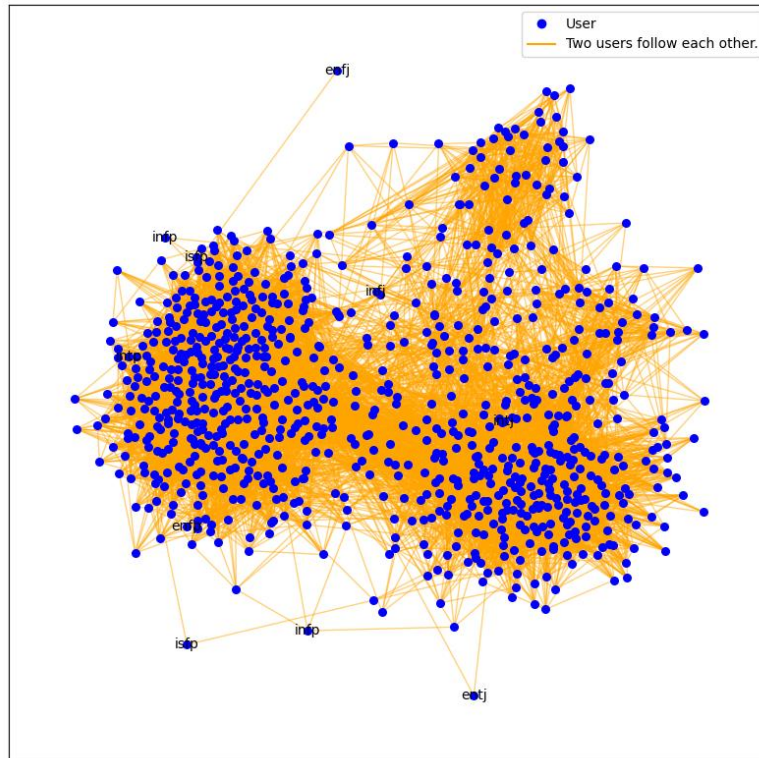


# Final Report

Sicheng Mi

Title: Relationship between people's Twitter data and their MBTI personalities

Figure 1: Exploring Mutual Followership and MBTI Personalities in the Twitter



Legend:

(Blue) Point: represents each user (at least one other user follows each other).

(Orange) Line: represents two users follow each other.

Text: MBTI personality of users with less than 5 mutual followers.

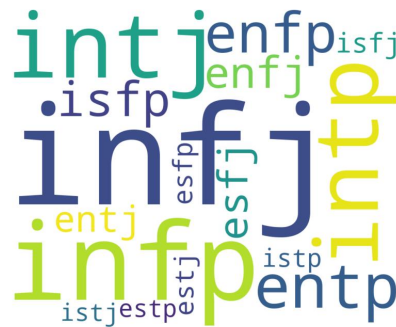
Highlights of the produced figure in bulletin points:

1. Mutual Followership: The extensive presence of orange lines (mutual followership) indicates that many users in the dataset have bidirectional relationships in Twitter. (Some users have a lot of followers but no mutual followers, so they are not included in the produced figure.)

2. MBTI Annotations for Less-Connected Users: Users with fewer than 5 mutual followers were clearly labeled with their MBTI type, revealing insights into which personalities might be less engaged in bidirectional interactions. If, you like, you can modify the code to display the MBTI personality of users with different numbers of mutual followers.

3. Central Nodes: Some MBTI types appear closer to the center of the network, suggesting they may serve as "hubs" or influential nodes.

Figure 2: Word Cloud about Mutual Followership and MBTI Personalities in the Twitter



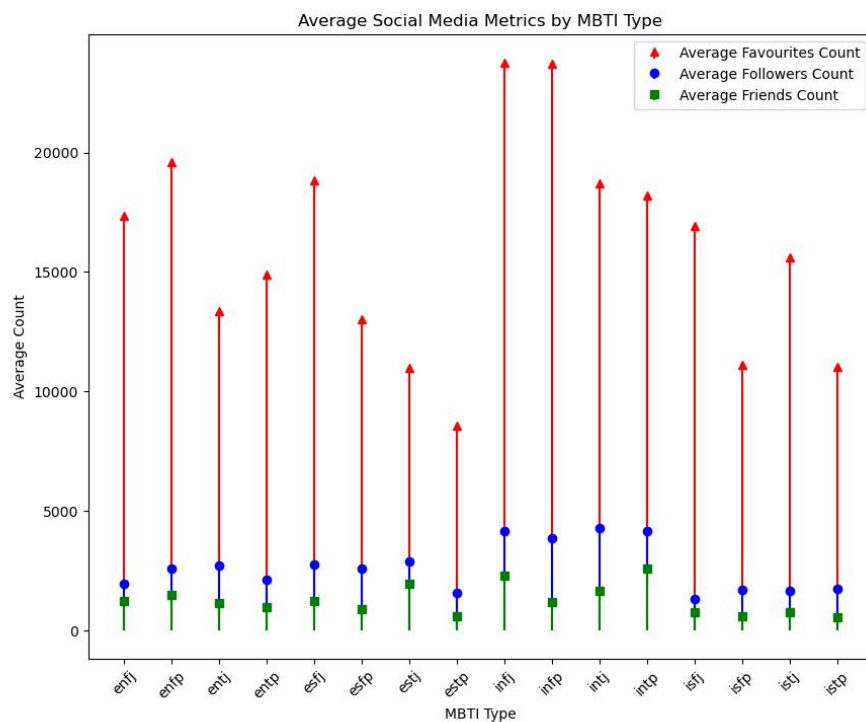
Legend:

The different sizes of MBTI personality types represent the average amount of mutual followership this population has.

Highlights of the produced figure in bulletin points:

This word cloud figure is a supplement to the main picture. It can more intuitively show which personality has a greater average number of mutual followers, and which personality has a smaller number.

Figure 3: The average number of friends, followers and favorites of different MBTI personalities.



Legend:

(Red) Arrows: represent average favourites count of each MBTI personality.

(Blue) Points: represent average followers count of each MBTI personality.

(Green) Squares: represent average friends count of each MBTI personality.

Highlights of the produced figure in bulletin points:

1. Those who have more followers usually also have more favorites.
2. I defined the difference between the number of followers and friends as the F-F difference.
  - The F-F differences of personality types containing e are generally smaller than the F-F differences of personality types containing i.

### **Data and method text describing the data and method used in this process**

- The dataset contains a set of 8,328 Twitter users who have reported their MBTI personality types in their profile descriptions.
- I used Matplotlib, Pandas, wordcloud to create all the visualizations.
- `networkx.spring_layout()` was used to create the line plot.
- `plt.stem()` was used to create the stem plot.
- `WordCloud()` was used to create the word cloud figure.
- Title, x axis , y axis, legend and text for all visualizations are tuned individually to give a better, aesthetic look.

### **Significance statement on why the presented figure is important**

- The visualization could be used to study the different behaviors of people with different MBTI personalities on Twitter.
- The visualization could help accurately deliver different types of ads.
- The visualization allows people with different types of MBTI personalities to understand the behaviors of other personalities and helps them make more friends.

Data gathered from

<https://www.kaggle.com/datasets/sanketrai/twitter-mbti-dataset/data>

Github:

<https://github.com/Penetrator10/INFORMATION-VISUALIZATION>