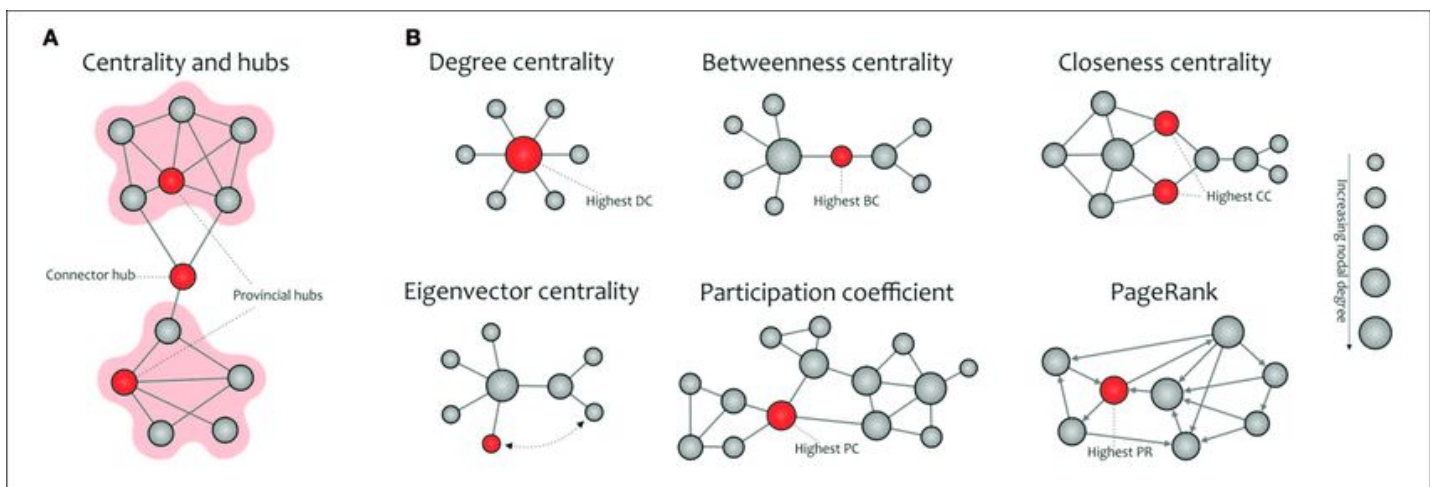# Centrality Measures in Social Networks

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Introduction

- **Reddit** is an online community where the users engage with a large array of topics.
- Understanding the engamet dynamic within the online platform reddit in order to increase engagement.
- Having a fundamental understanding on the engagement patterns can also help curate a feed that is within the best interest of users.

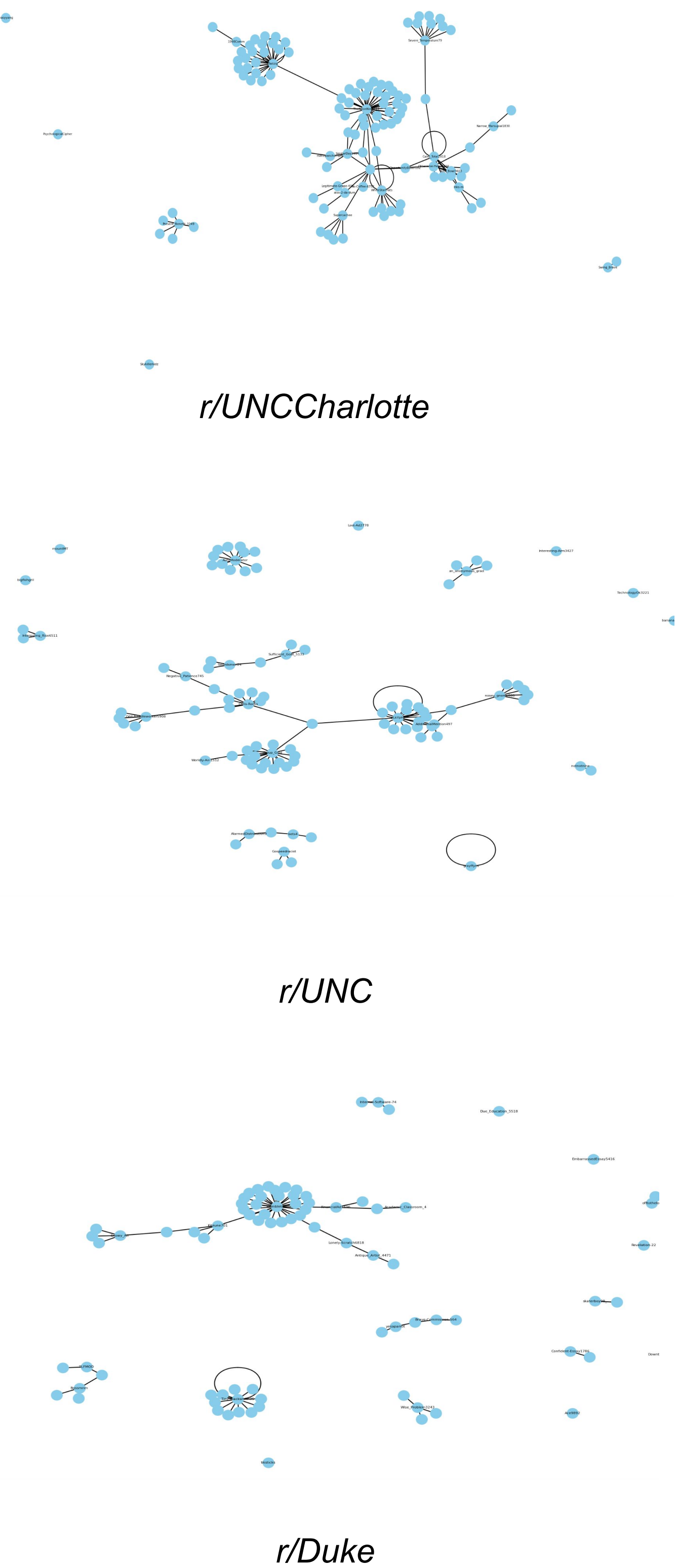*types of centrality from Newmann's Networks*

Background Readings

Readings

- Networks by Mark Newman: complexity, centrality

- A variety of previous research papers on the topic of **centrality measure, complexity,** as well as how it is computed.

Research on;

- Learning and understanding how to access Reddit API from online resources
- Utilizing NetworkX in order to build graphs.

Current Progress

- Researched the topic to have a better understanding
- Accessed Reddit API through the process of authentication.
- Collected Data using the **Python** programming Language through the authenticated data.
- Built graphs utilizing **NetworkX** visualized them on **Matplotlib.**

Top 25 Posts on some Subreddits
(nodes labeled with usernames represents a post connected to its comments)

r/UNCCharlotte

r/UNC

r/Duke

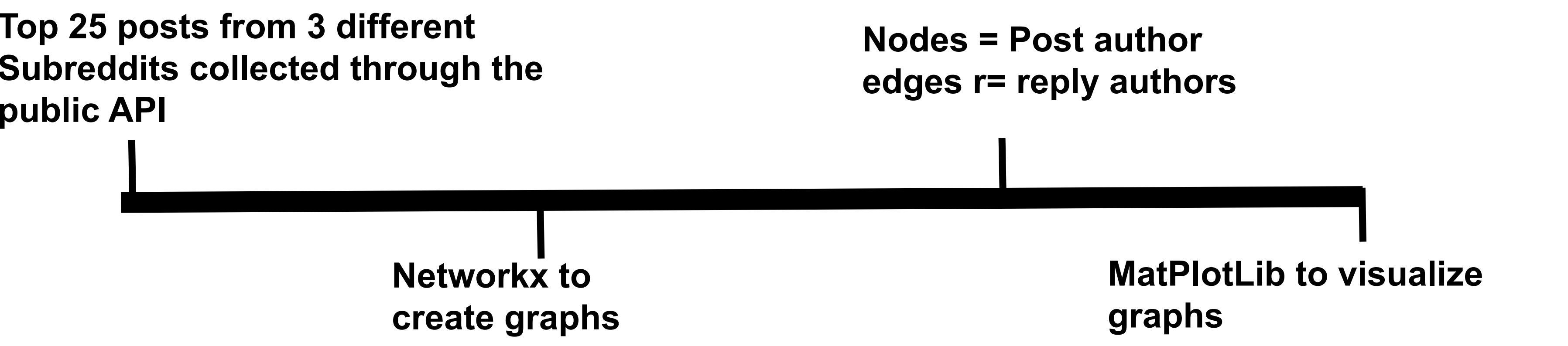*The Social network of focus; Reddit*

Future Plans

- Analyzing the top 25 posts from various Subreddits has enhanced my understanding of user-to-user engagement and the utilization of API for data extraction.
- Having developed a knowledge in the process of collecting and visualizing this publicly available data; enables us to draw conclusions that extend beyond the scope of this research.

References

Newman, M. E. J. (2019). *Networks*. Oxford University Press.

Quick start#. Quick Start - PRAW 7.7.1 documentation. (n.d.). https://praw.readthedocs.io/en/stable/getting_started/quick_start.html

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Top 25 posts from 3 different Subreddits collected through the public API

Nodes = Post author
edges r= reply authors

Networkx to create graphs

MatPlotLib to visualize graphs

Objectives

About Backgrounds…

- Analyze **user-to-user** interactions
- Investigate the underlying factors of user engagement within Reddit Communities.
- Examine how different types of interactions reflect on the overall user experience.

Methods

- Accessed the **Reddit API** using my personal account later authenticated it.
- Mined user-to-user data using the **top 25 posts** from various subreddits, and its replies utilizing the **Python** programming language.
- Built graphs using **NetworkX** to visualize the finding through graphs.