A dark, moody photograph of Harry Potter wearing his round glasses and a Gryffindor robe, looking intensely at the viewer. The background is dark and out of focus.

Harry Potter Character Network Analysis

Get a behind-the-scenes glimpse into the world of Harry Potter with data science! Explore the relationships between your favorite characters through the lens of statistical analysis.



by Mohammed-Sherrif Fuseini

Outline

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Executive Summary

Objective

To use data science techniques to map the relationships between the characters in the Harry Potter books.

Method

We used NLP algorithms and social network analysis to identify and quantify the relationships between the characters.

Results

The characters were grouped by different clusters, revealing hidden connections between the wizarding world's most beloved figures.

Conclusion

Data science techniques can uncover new depths in the complexity of the relationships in the Harry Potter books.

Introduction

In this project, we aim to map out the networks between the characters in the Harry Potter books using data science techniques. We will use natural language processing (NLP) to extract character names and interactions from the text, and network science (NS) to create and analyze graphs that represent the social structure of the fictional world. We will explore various aspects of the character networks, such as centrality, community detection, temporal evolution, and comparison across different books. We will also use the network information to generate summaries and insights about the plot and the author's style. We hope that this project will provide a novel and interesting perspective on the popular fantasy series.

Methodology

Data Cleaning

Cleaning and processing the data to remove any irrelevant or discrepant information.

Data Visualization

Presenting our findings in a visual format to help viewers better understand the complex web of relationships.

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Data Collection

1. Extracting the list of characters in the harry potter universe using Web scraping
2. Extracting data from the books, including dialogue and character interactions, using natural language processing.

Social Network Analysis

Analyzing the relationships between the characters to identify patterns and groupings.

Results

1 Harry Potter

The Boy Who Lived is at the center of our analysis, revealing the connections and dependencies he has with the other major characters in the series.

2 Hermione Granger

The brightest witch of her age was an essential partner to Harry, and our analysis demonstrates just how deep and crucial their bond was.

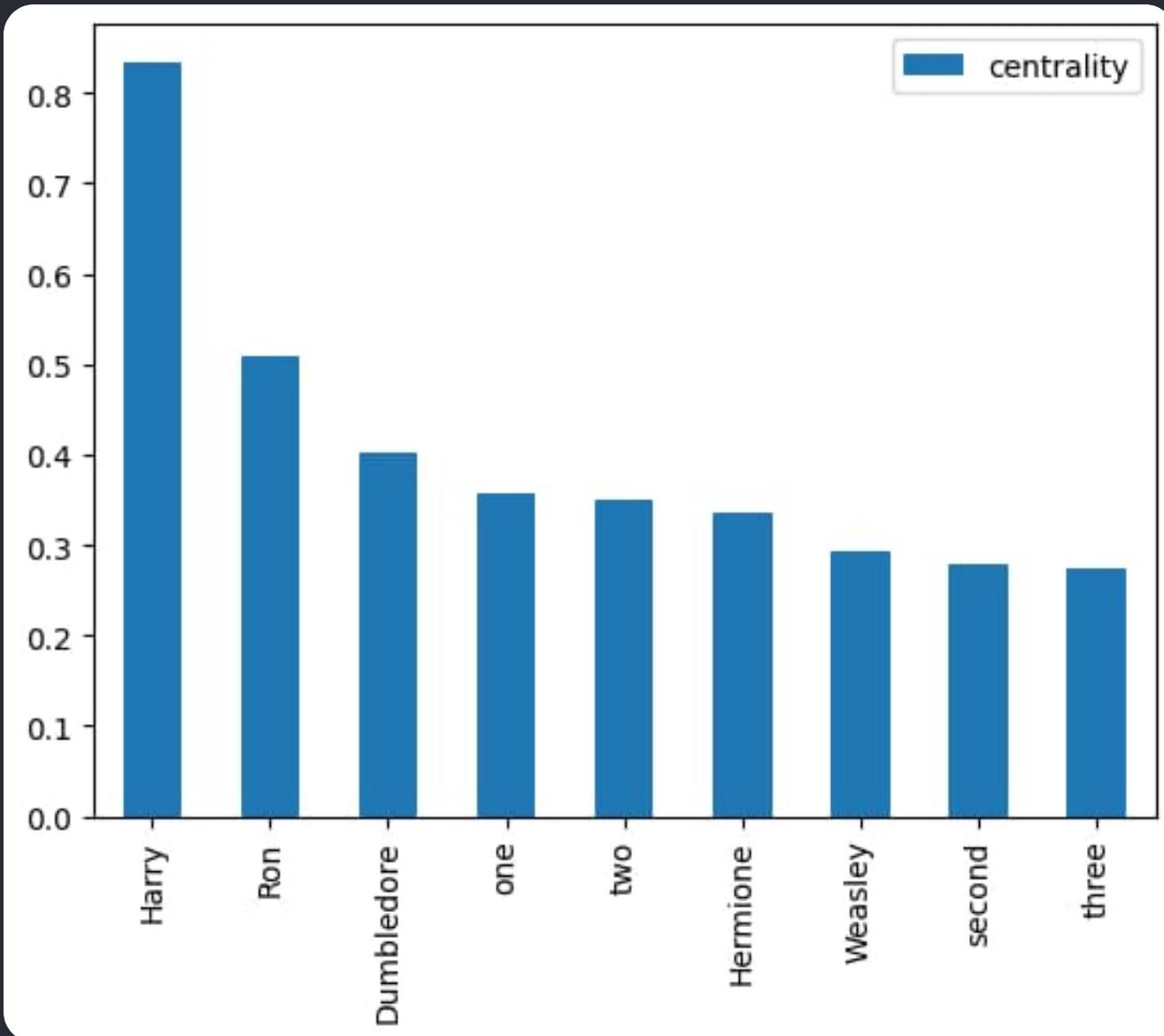
3 Ron Weasley

The quirky, lovable sidekick to Harry and Hermione played a critical role in our analysis, revealing some surprising connections between major characters.

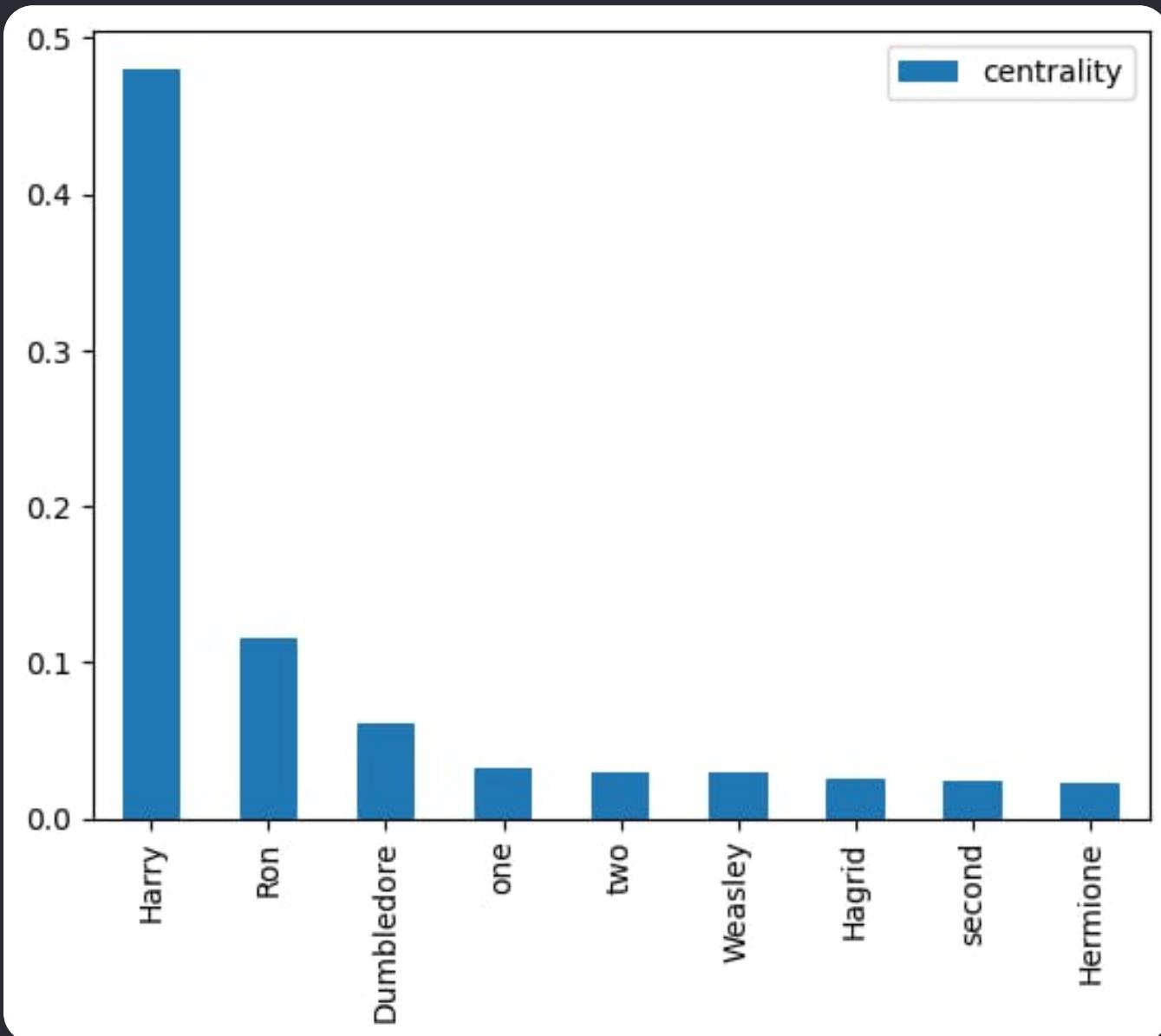
4 Albus Dumbledore

The wise and enigmatic headmaster of Hogwarts is among the most beloved characters in the series, and our analysis sheds light on his varied and complex relationships.

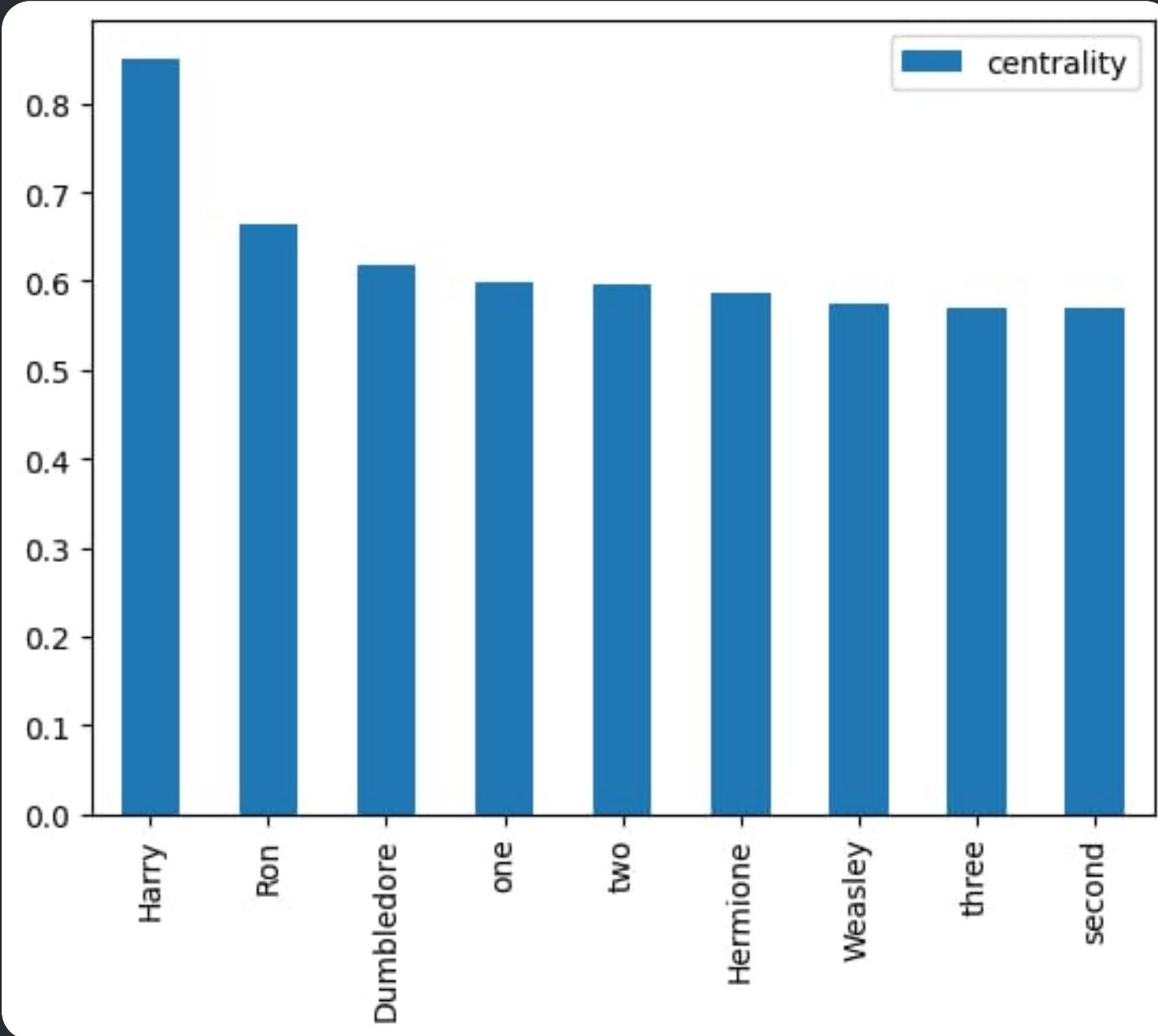
Most Important Characters By Degree Centrality



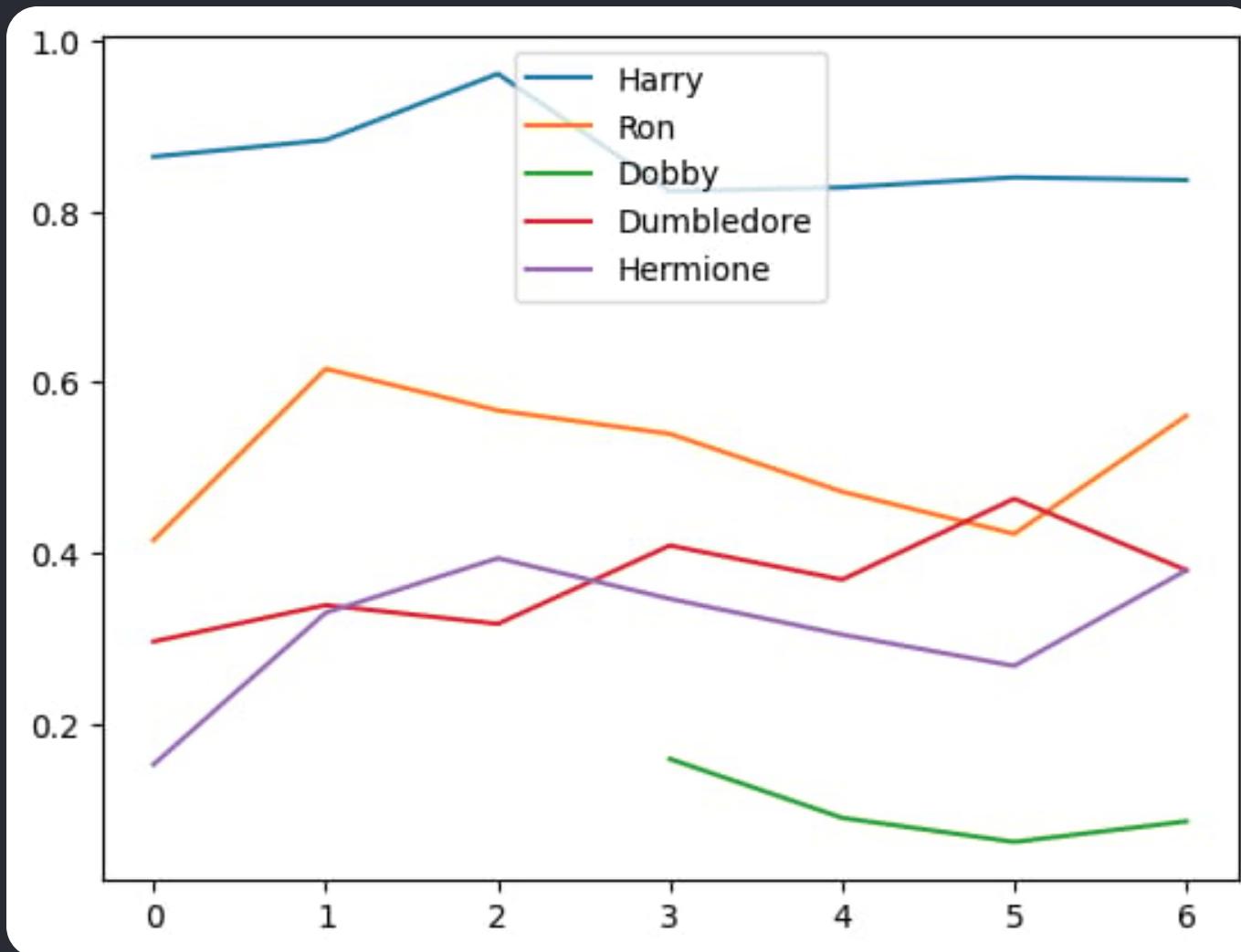
Important characters by betweenness centrality



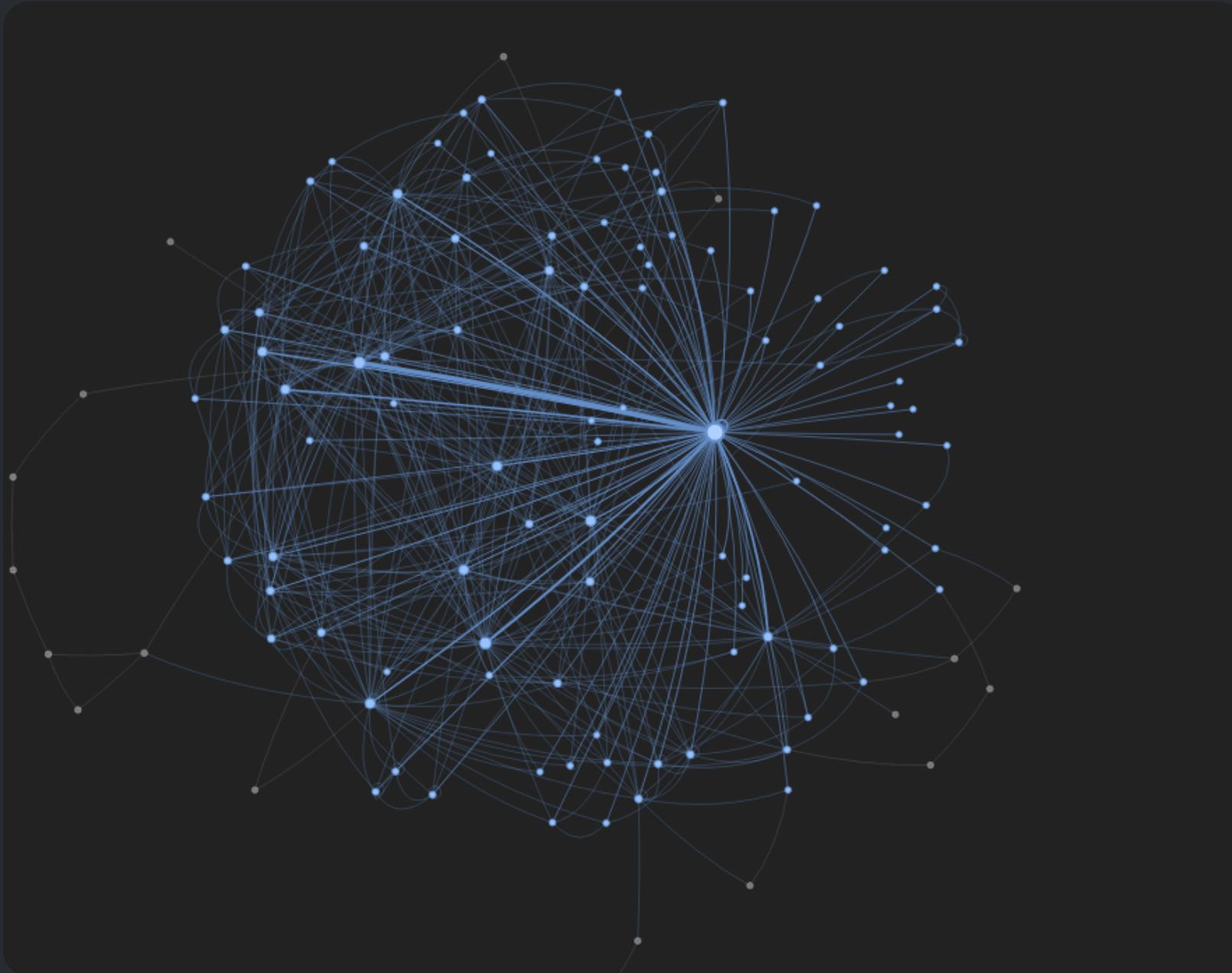
Important Characters by Closeness Centrality



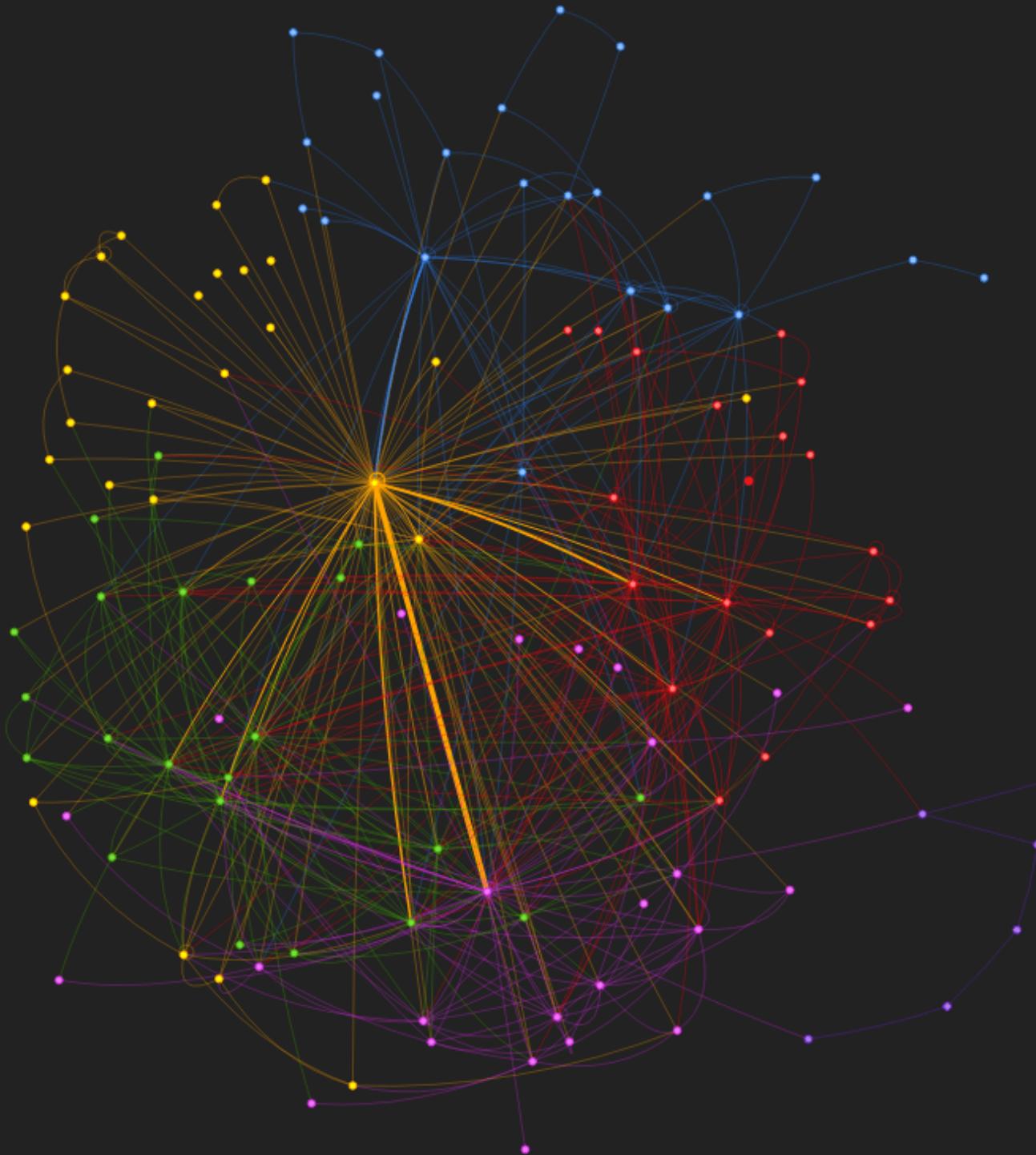
Temporal Evolution of Characters



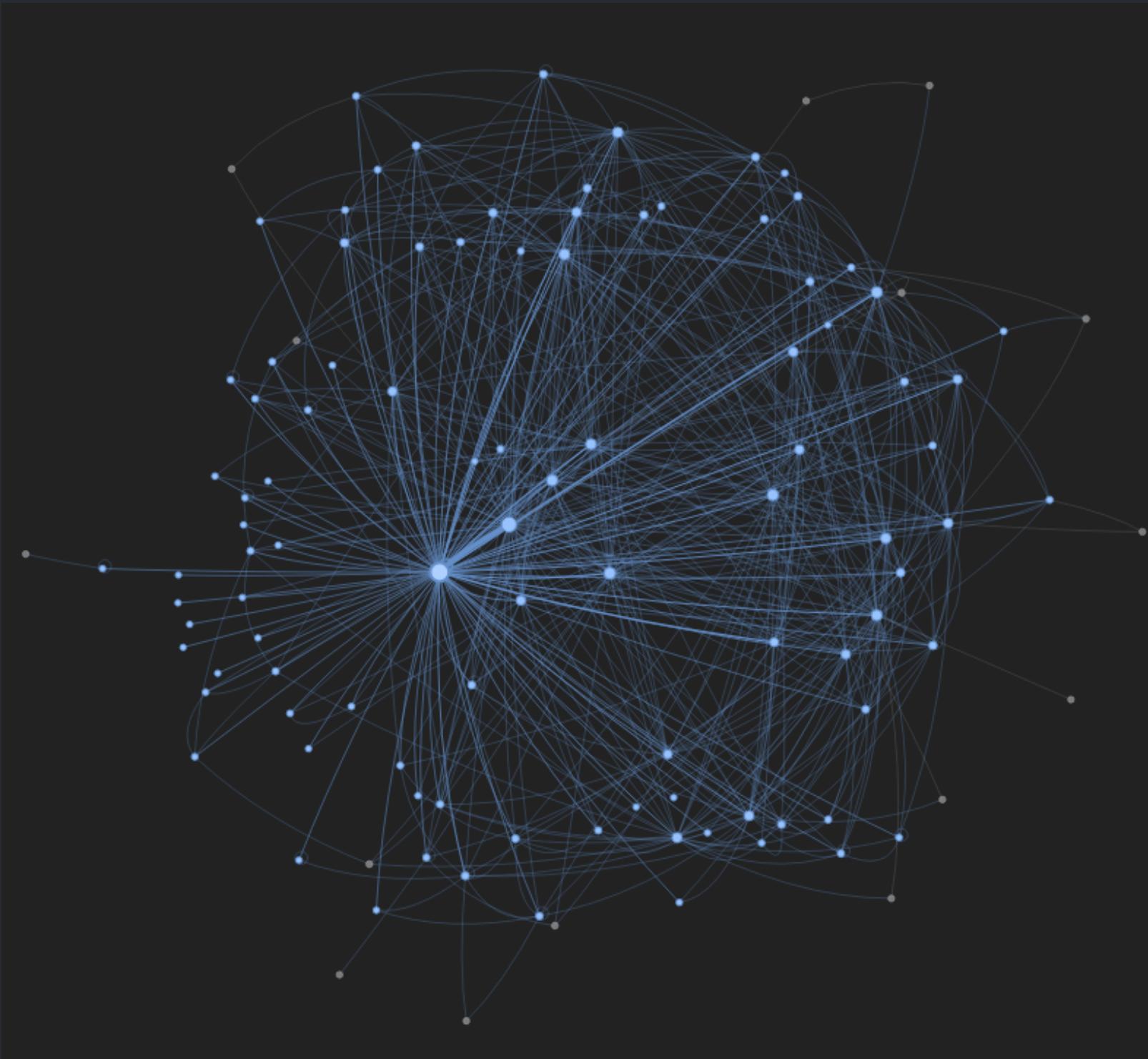
Book 1 - Network Map



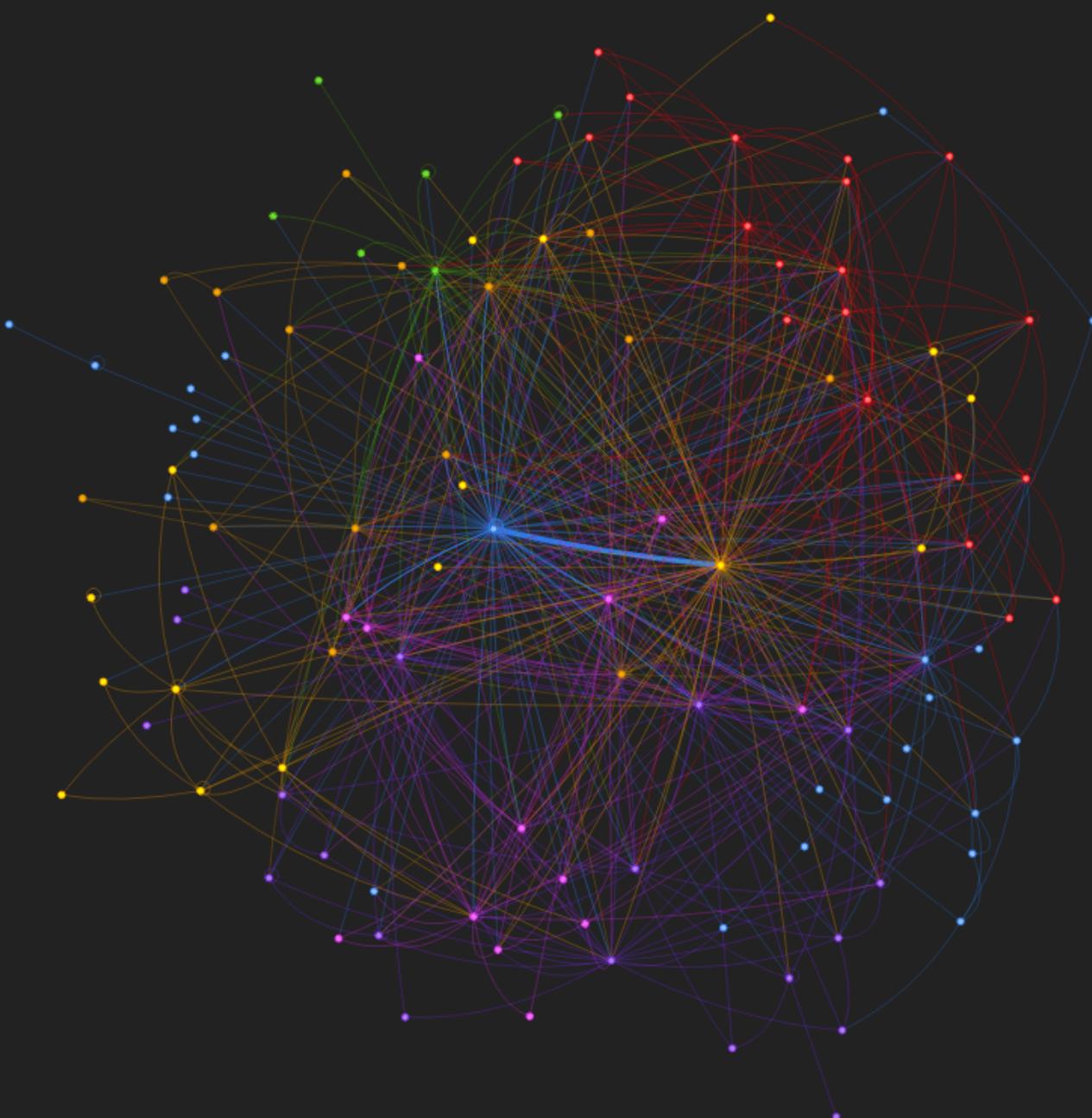
Book 1 Community Detection



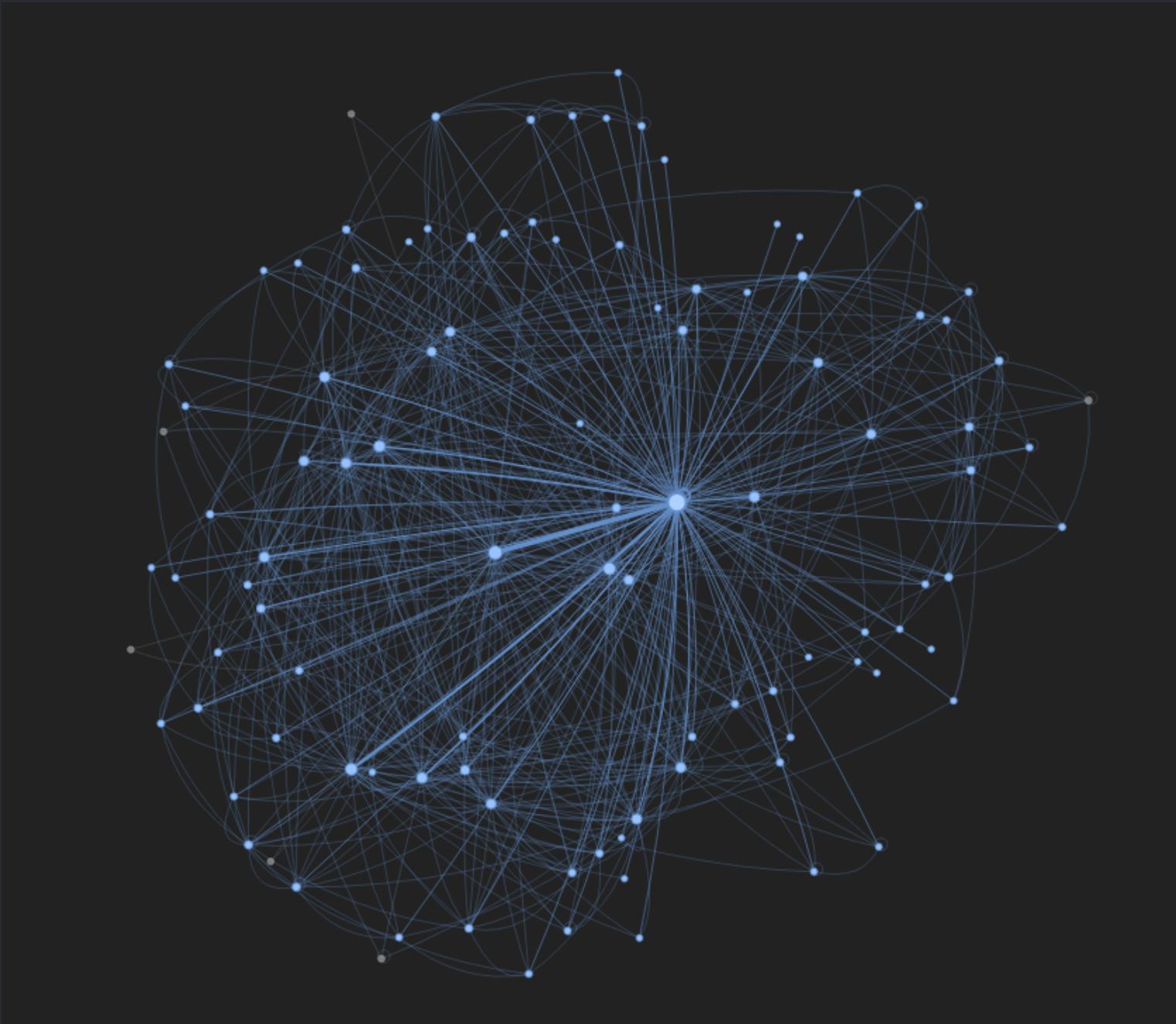
Book 2 Network Map



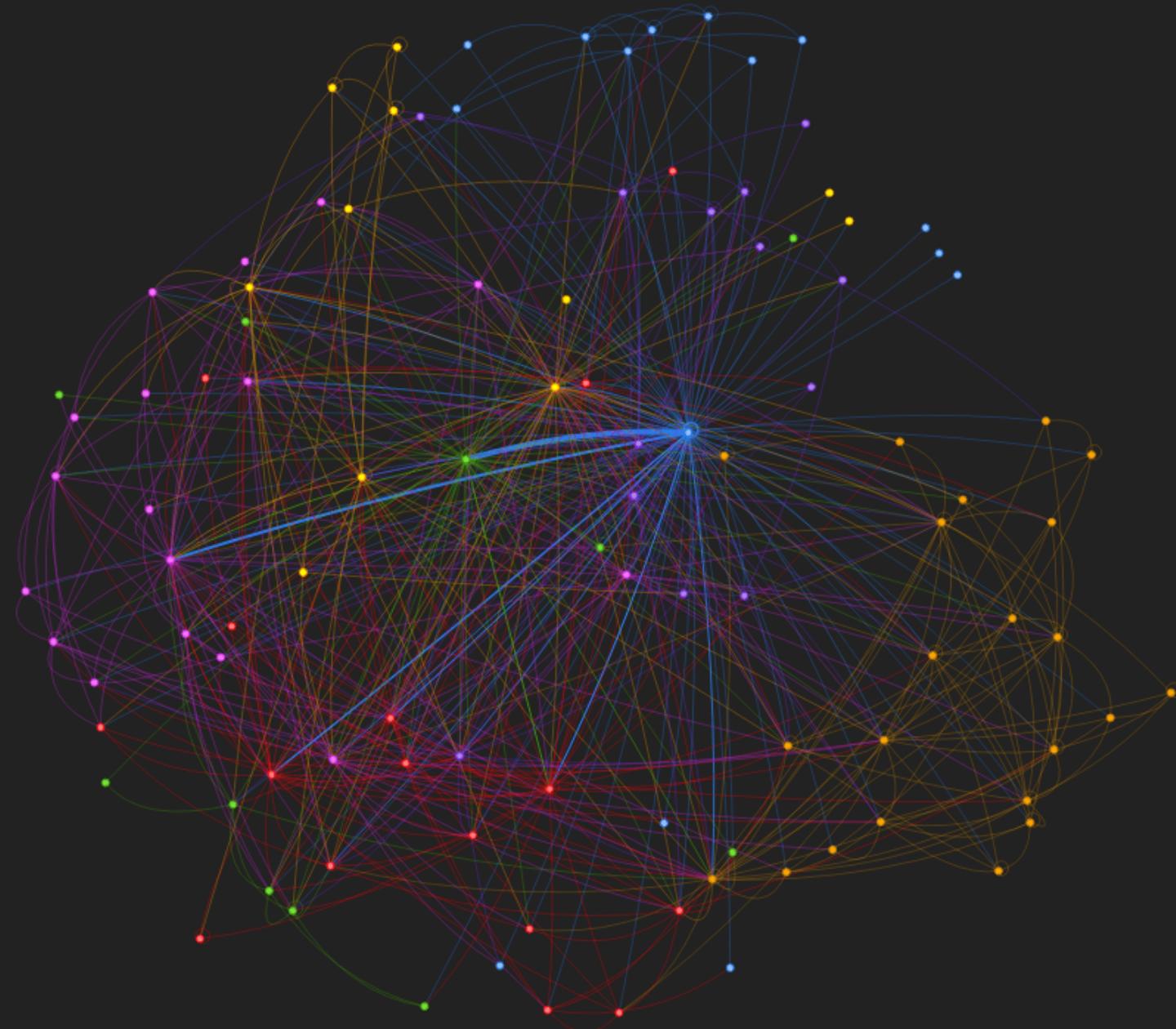
Book 2 Community Detection



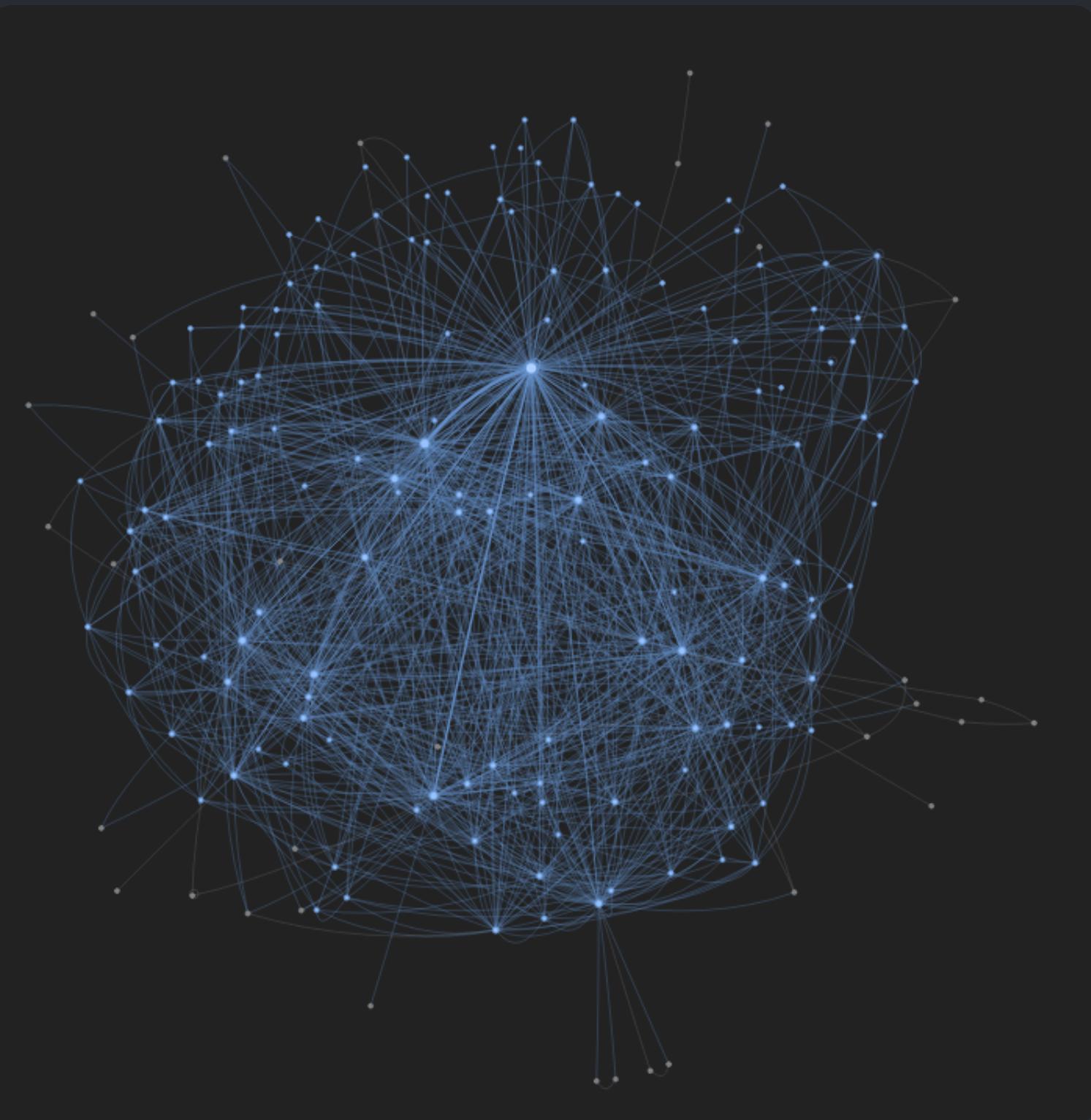
Book 3 Network Map



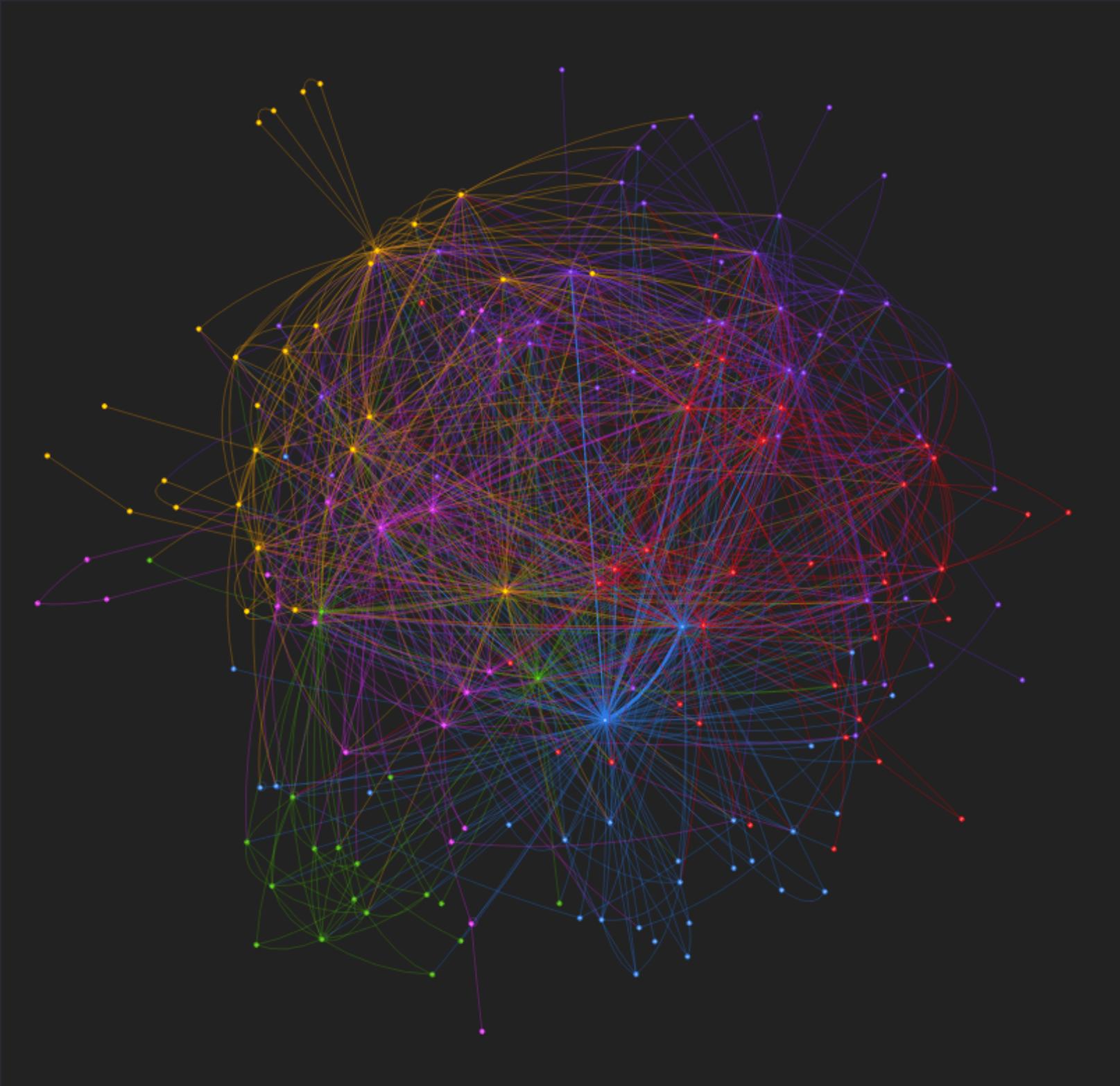
Book 3 Community Detection



Book 4 Network Map



Book 4 Community Detection



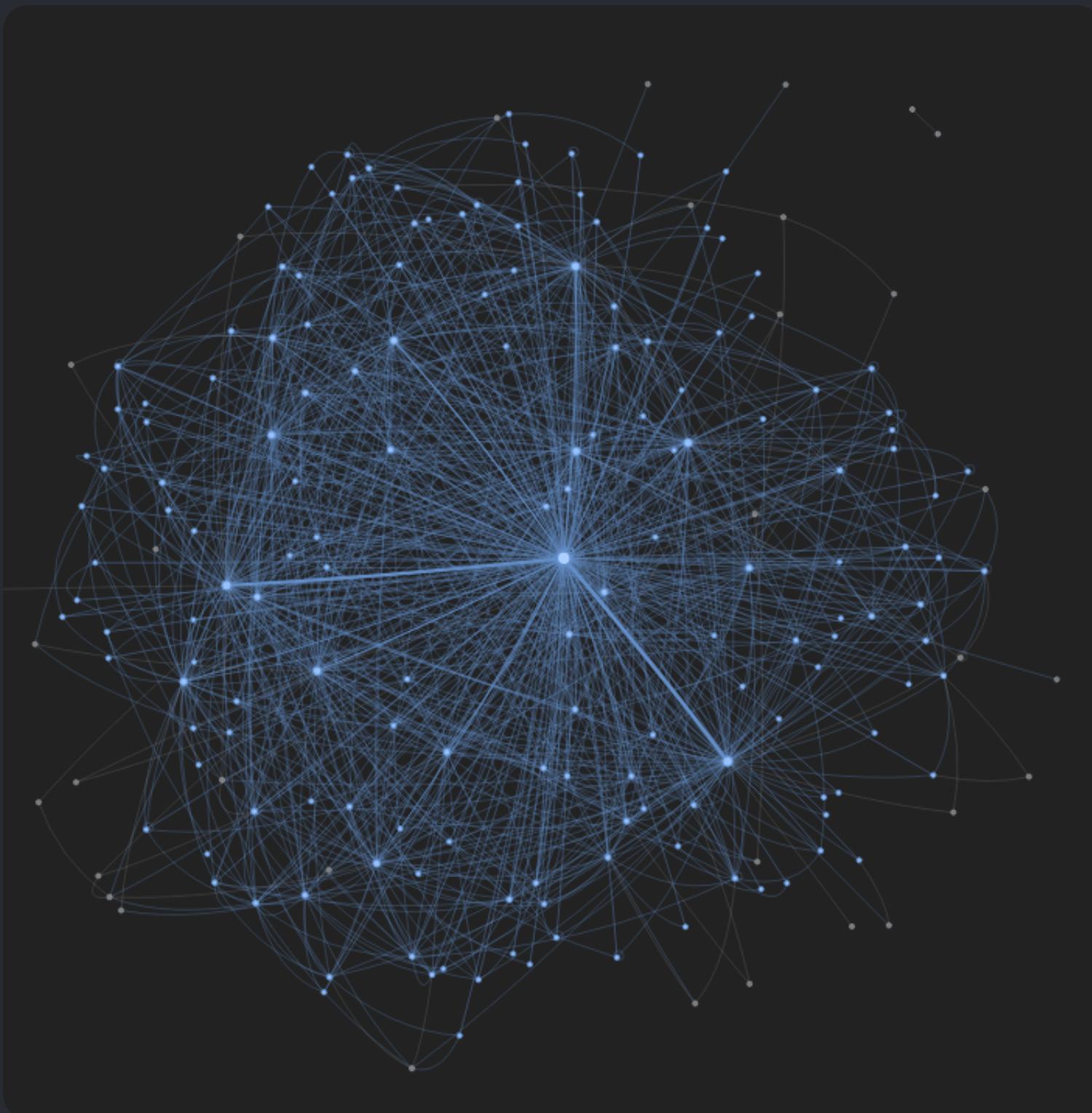
Book 5 Network Map



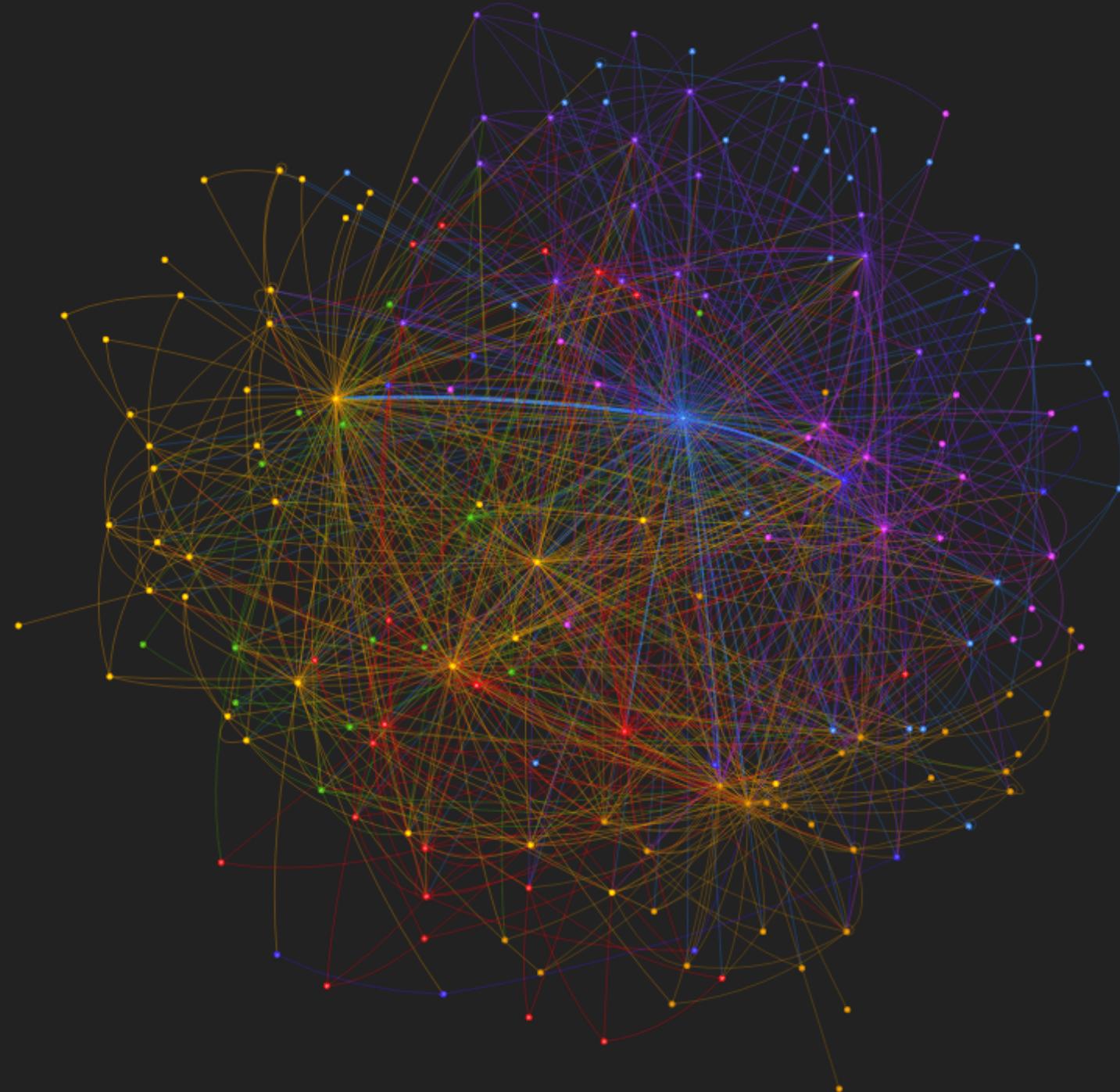
Book 5 Community Detection



Book 6 Network Map



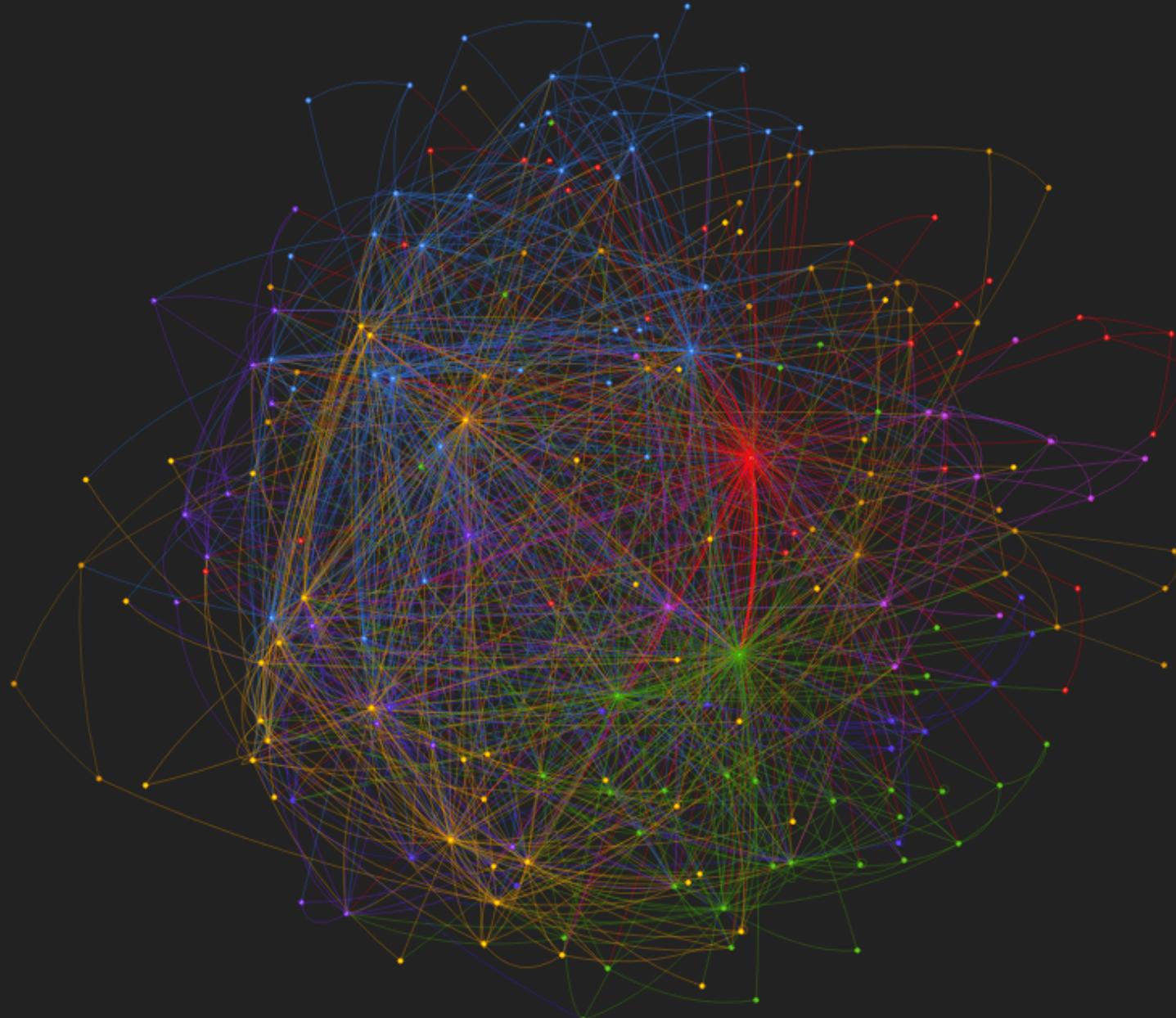
Book 6 Community Detection



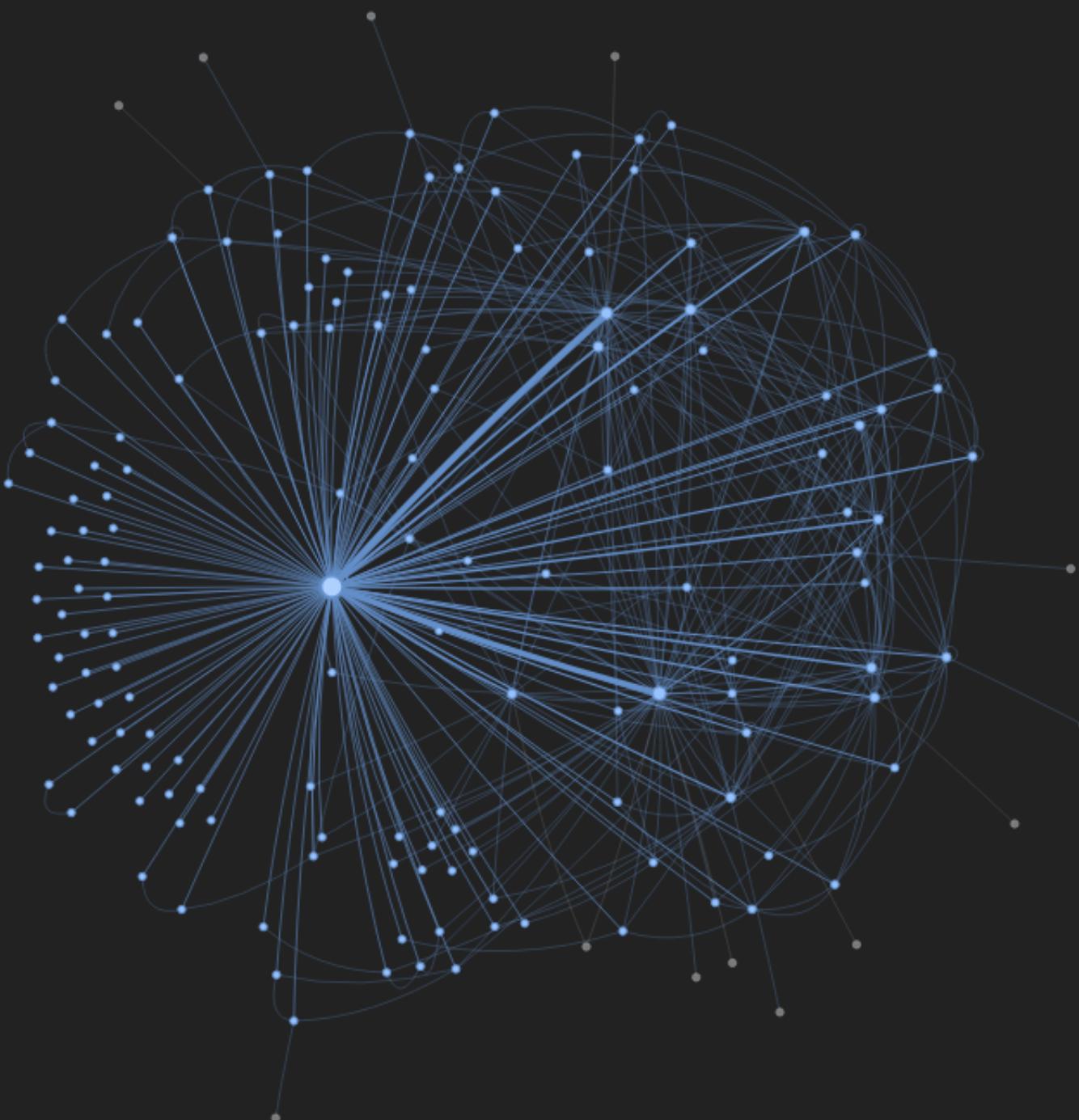
Book 7 Network Map



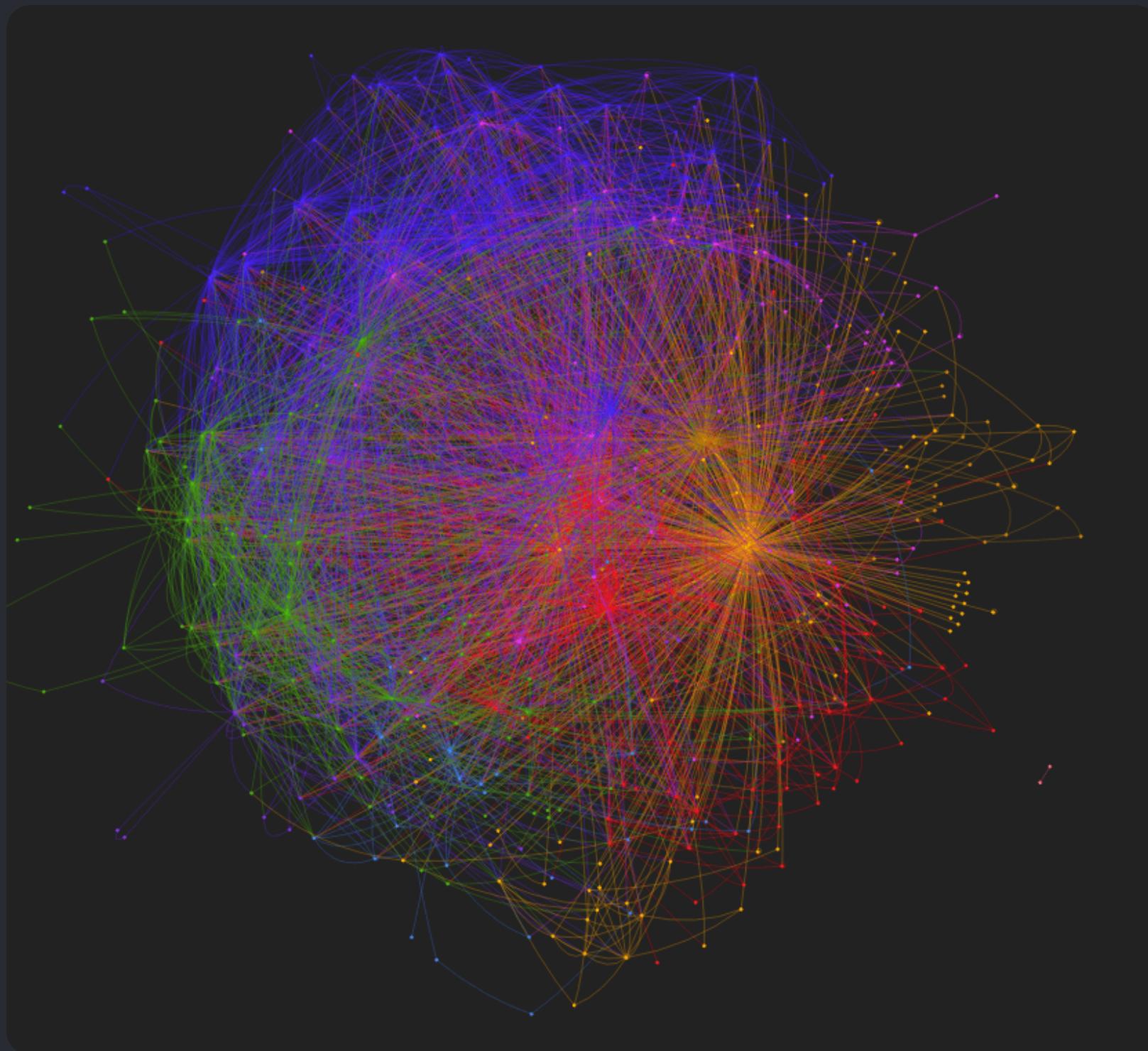
Book 7 Community Detection



Top 1000 Interactions In the Series



Communities across all 7 books



Conclusion

The Power of Data Science

Through cutting-edge data science techniques, we are able to uncover new depths in even the most beloved stories.

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What We Learned

The world of Harry Potter is full of deep and intricate relationships that go far beyond what meets the eye.

Future Directions

Our analysis represents only the tip of the iceberg of possibilities for applying data science to deep and meaningful literary analysis.