



# Facebook's Network Dynamics for Enhanced Engagement

Group 2



A white rectangular area containing the text is overlaid on a background illustration. On the left, a man with dark hair, wearing a blue t-shirt, is shown from the waist up, looking thoughtful with his hand to his chin. On the right, a woman with dark hair tied back, wearing a yellow dress, is also shown from the waist up, looking thoughtful with her hand to her chin. The background behind them is a solid blue.

**How can we enhance  
user engagement and  
identify influential  
users on facebook?**



# Dataset

## Definition

**nodeld.edges** Edges in the ego network for nodeld.

**nodeld.circles** Set of circles for the ego node. Each line contains one circle, starting with the circle's name.

**nodeld.feat** Features for nodes.

**nodeld.egofeat** Features for the ego user.

**nodeld.featnames** Names of each feature dimension.

## Dataset Statistic

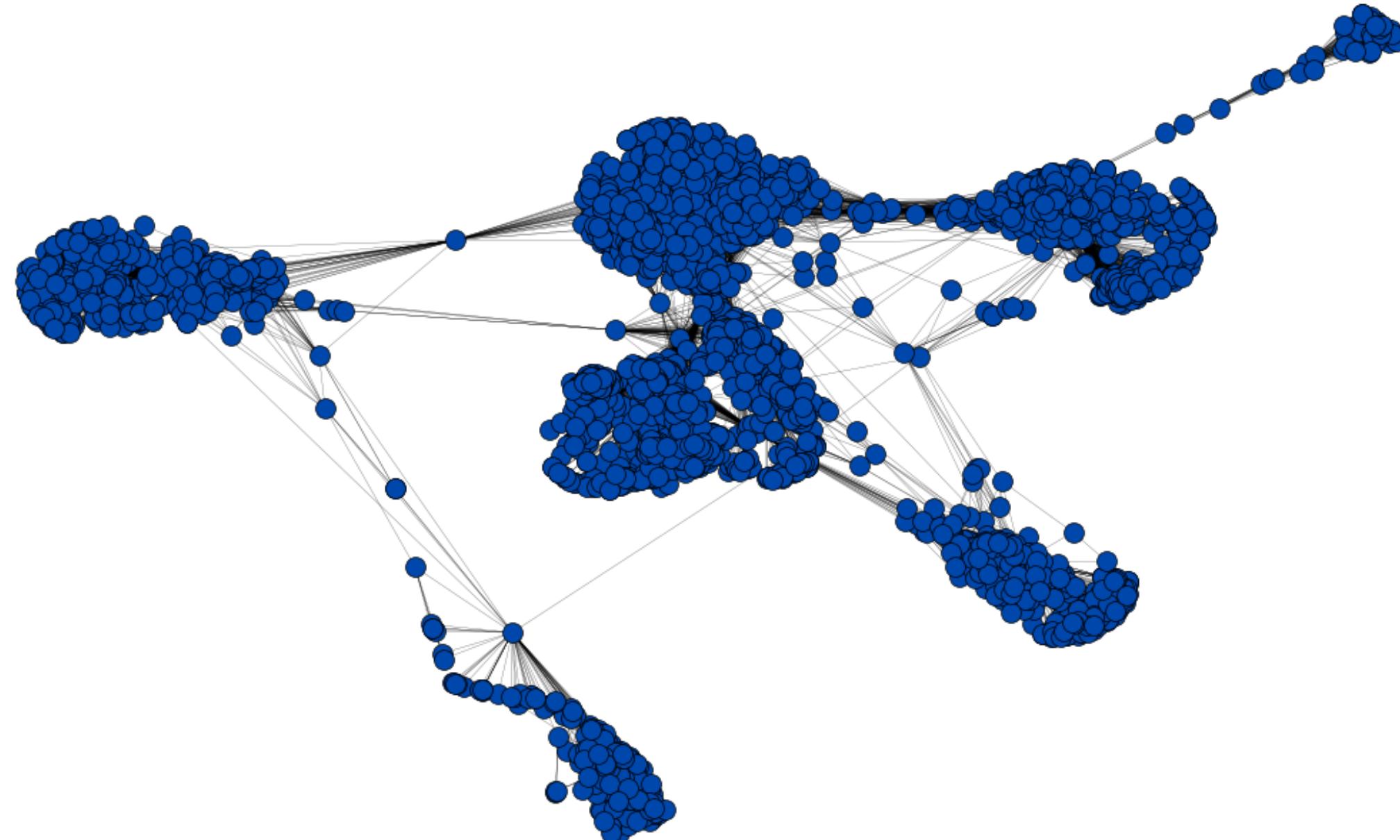
**NODES** 4039

**EDGES** 88234





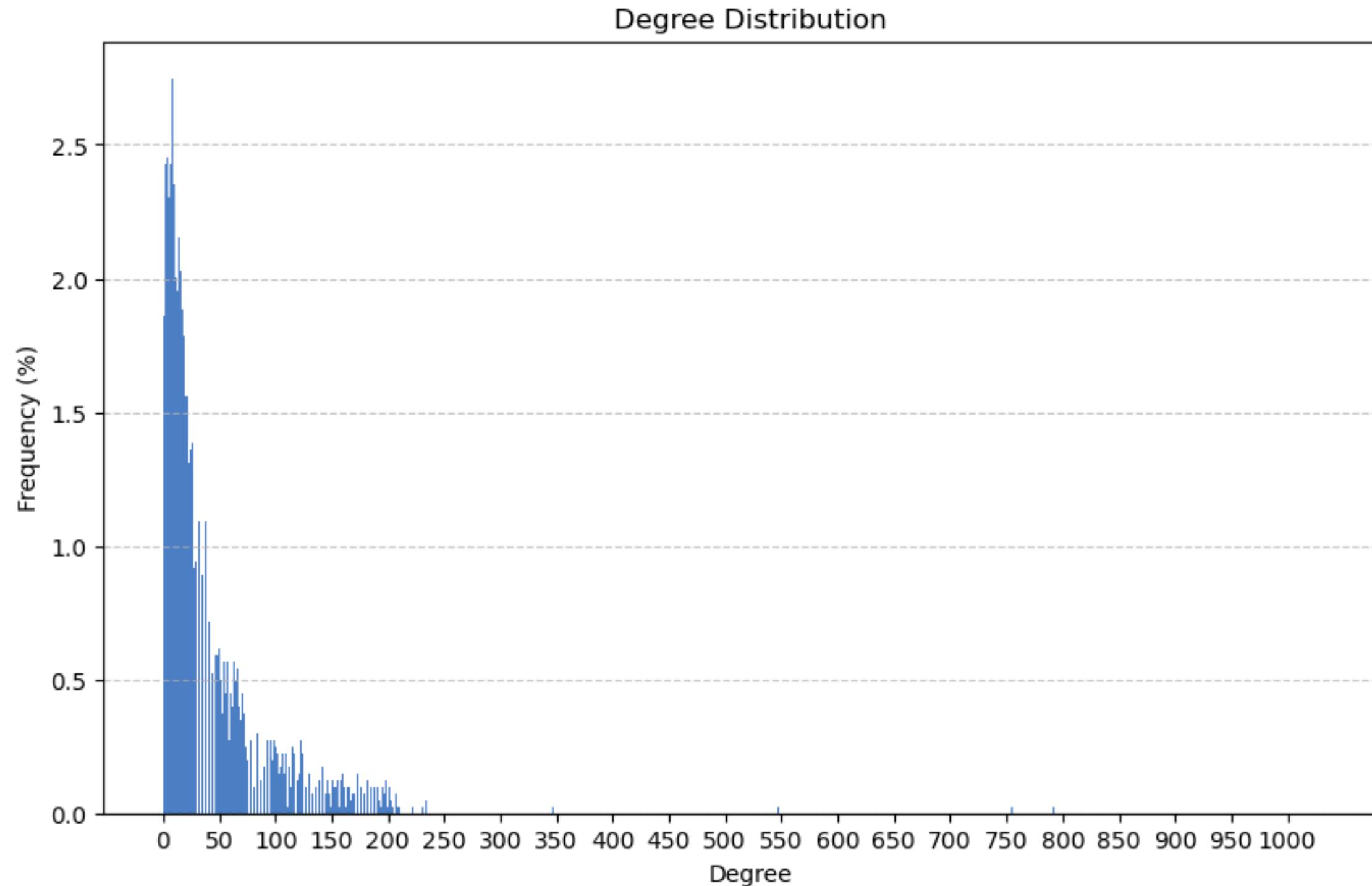
# Network Plot Graph of G



Graph of G using Fruchterman Reingold layout.



# Network Degree Distribution

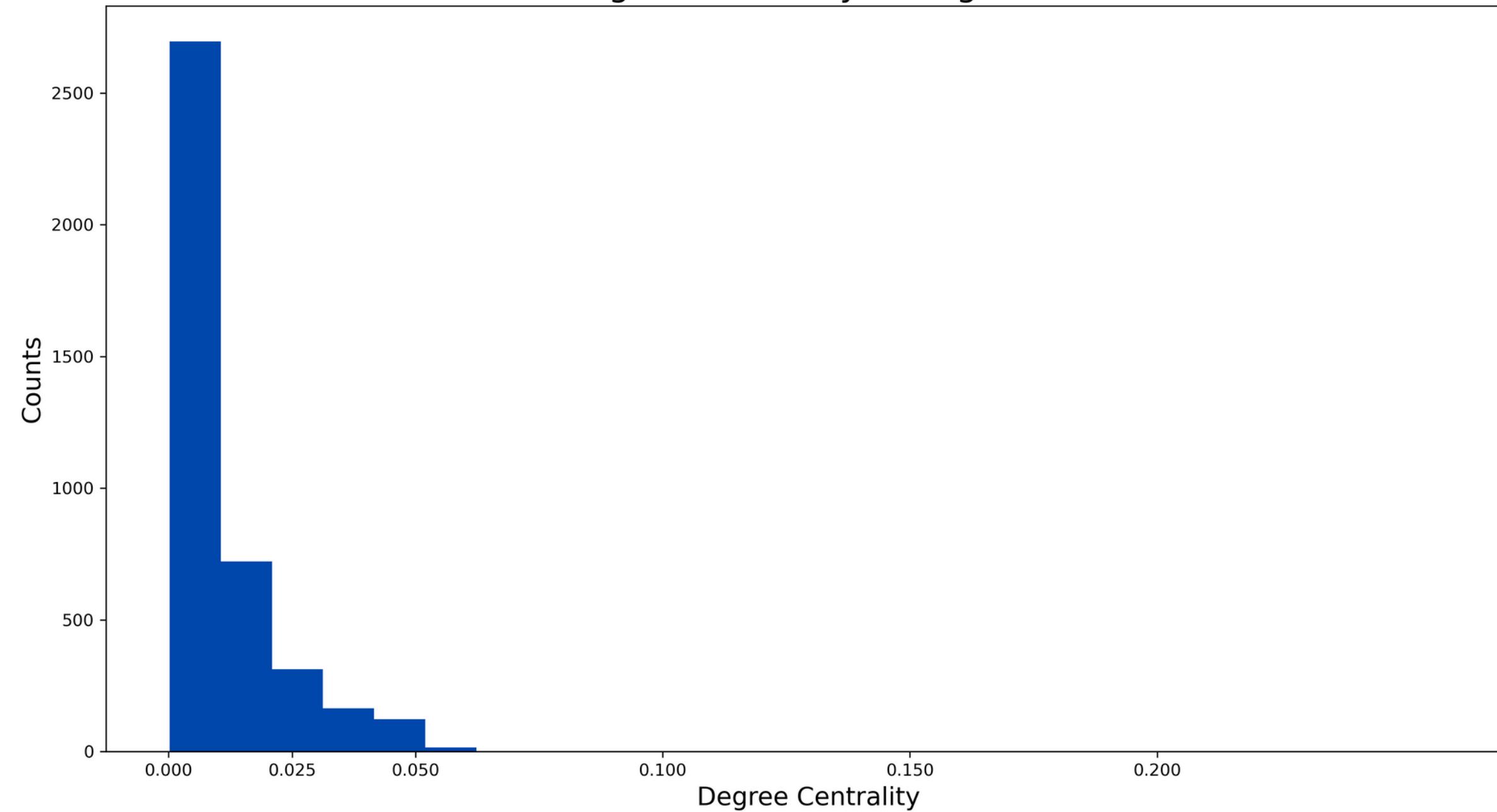


Distribution of node degrees and that the most nodes have a low degree.



# Histogram of Degree Centrality

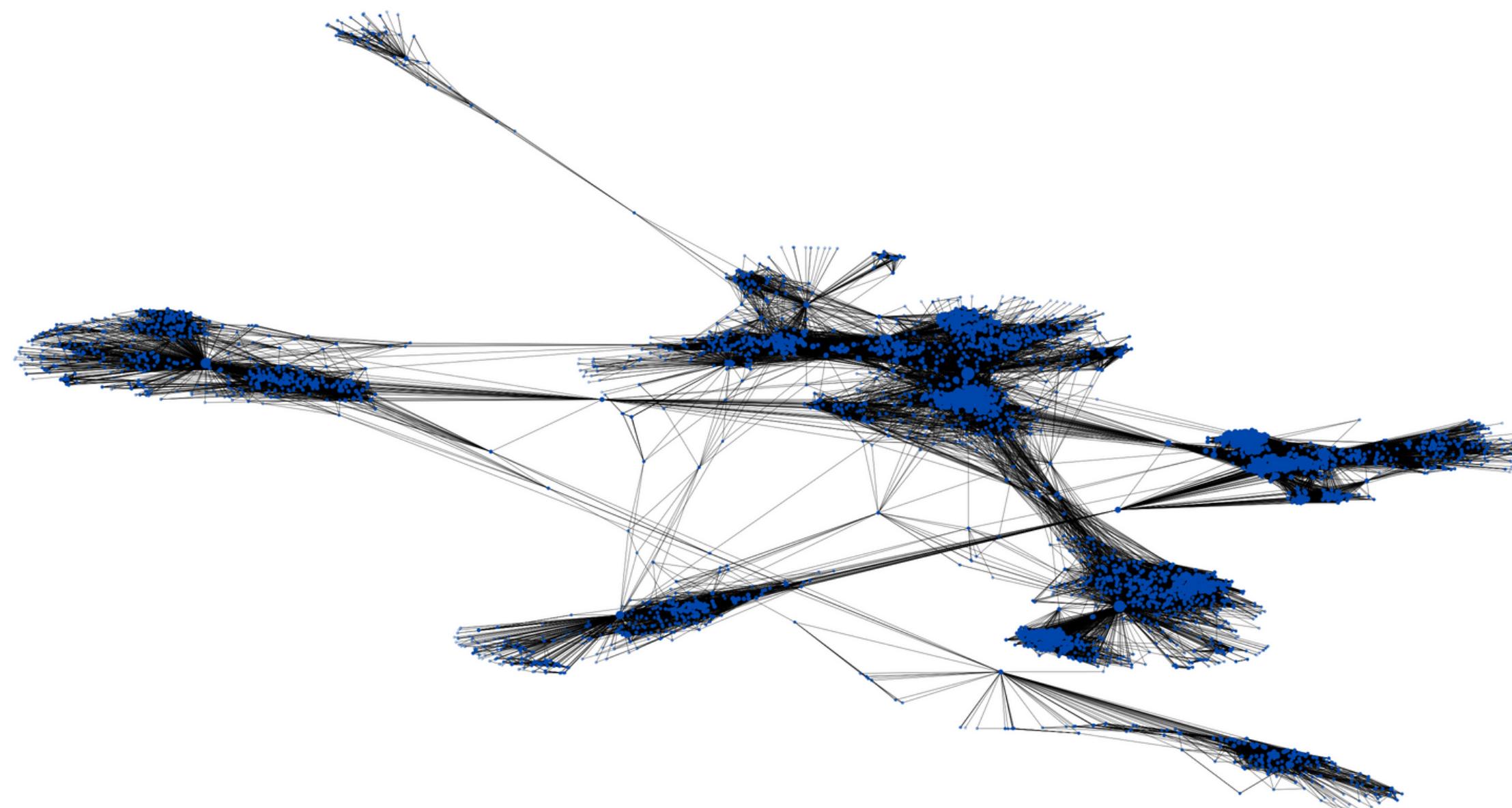
Degree Centrality Histogram



Cegree centrality values of nodes in the graph G.



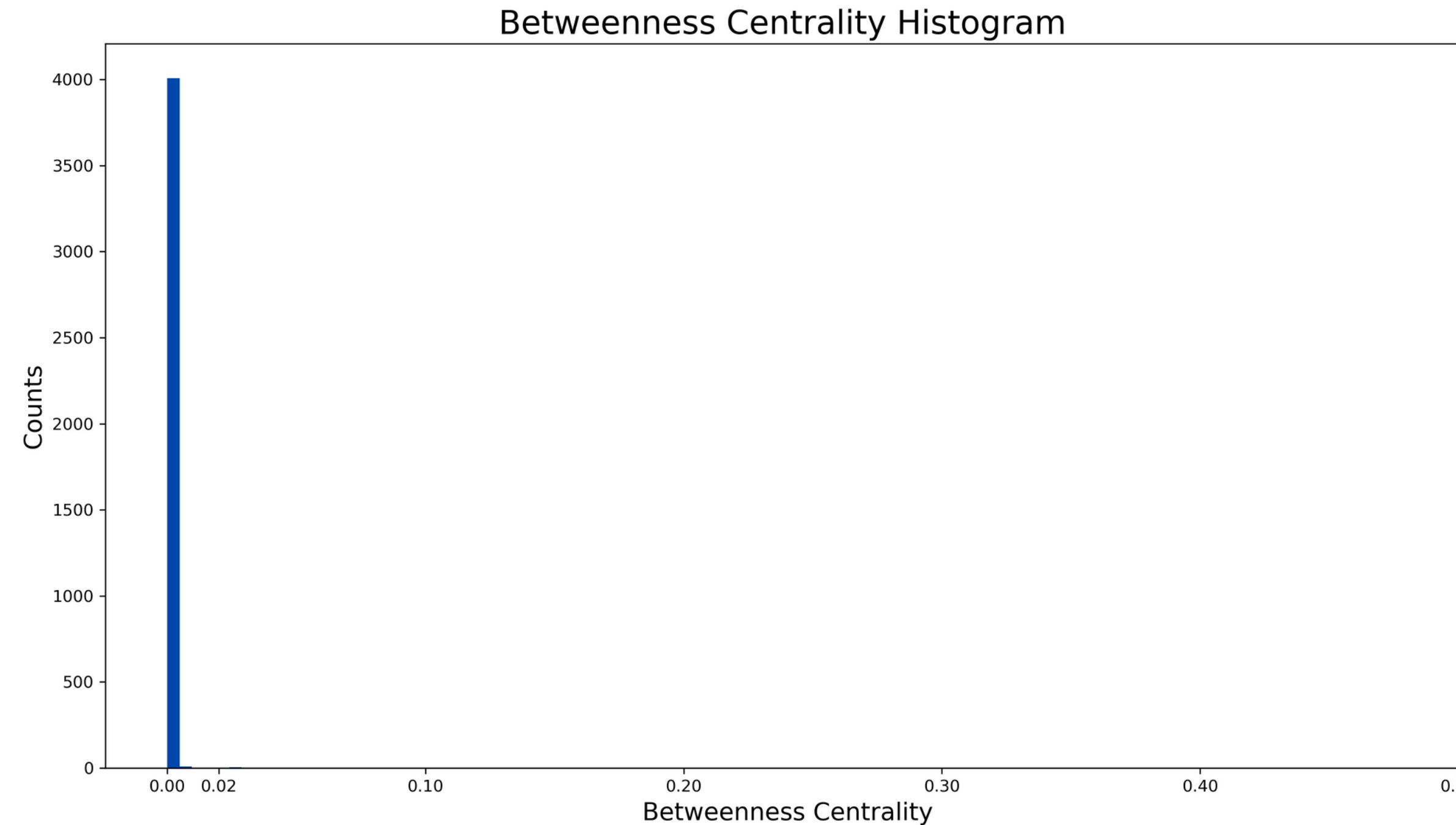
# Network Graph of Degree Centrality



Degree centrality values of nodes in the graph G.



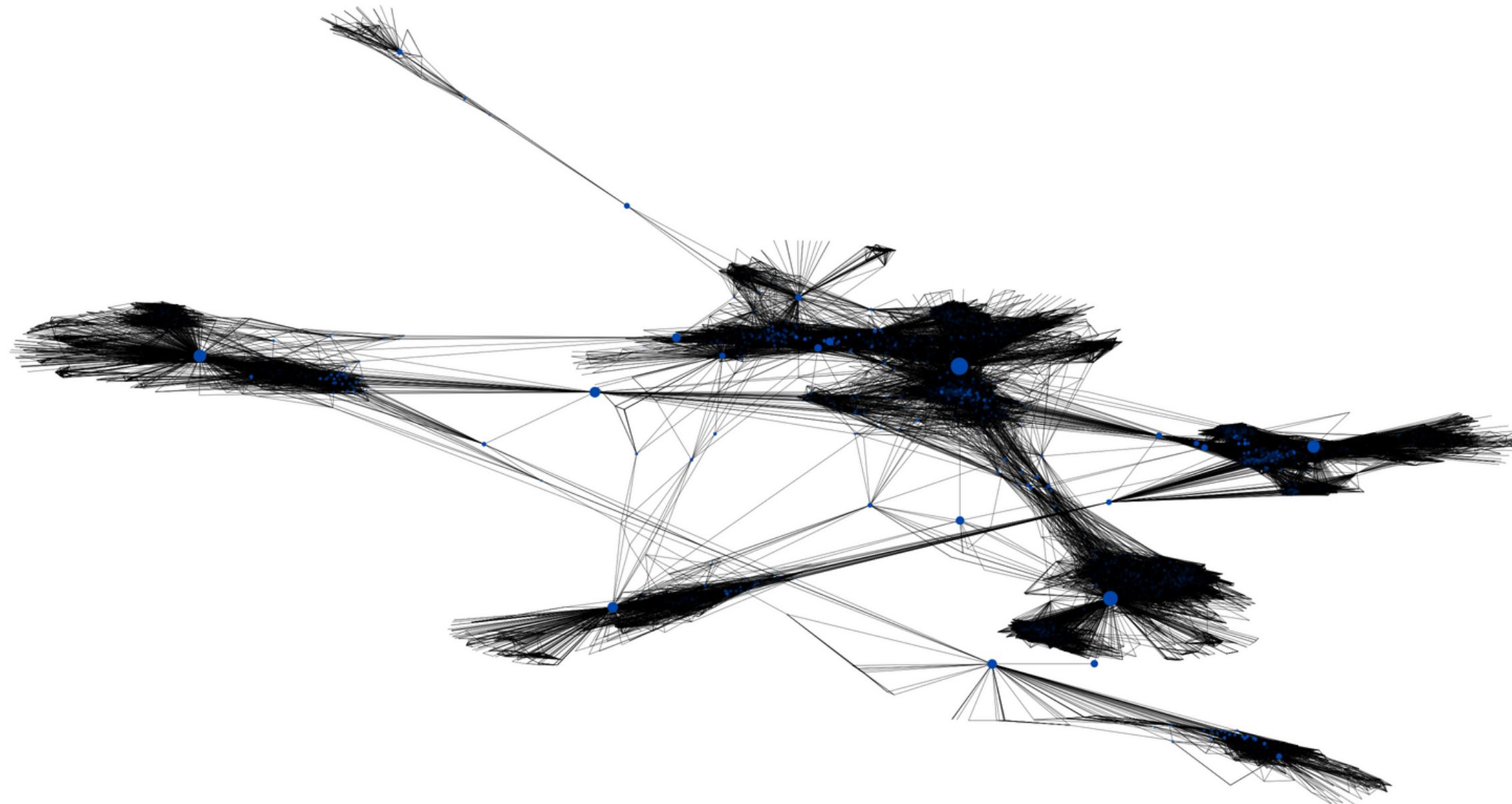
# Histogram of Betweenness Centrality



The betweenness centrality values of nodes in the graph G.



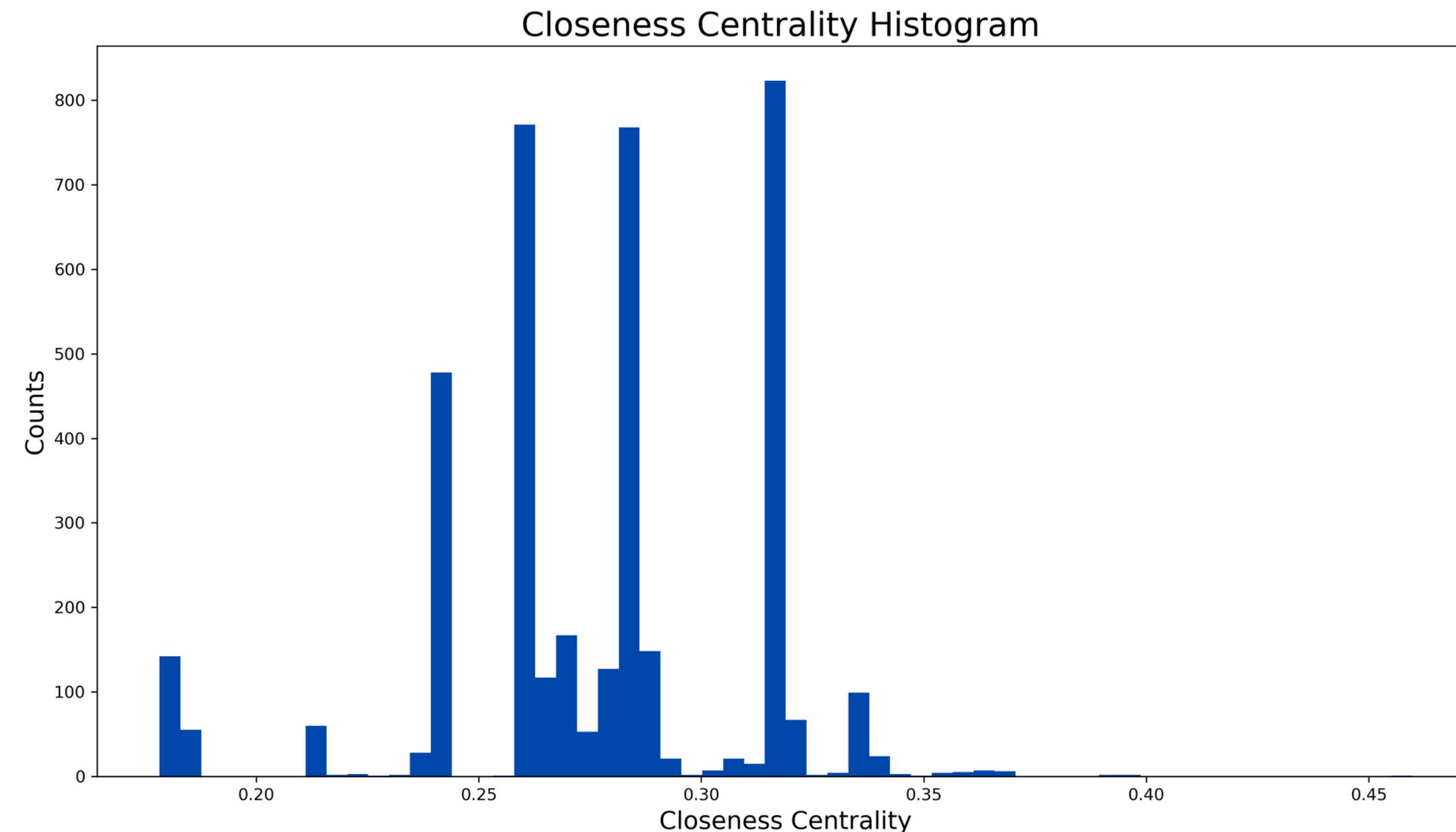
# Network Graph of Betweenness Centrality



The betweenness centrality values of nodes in the graph G.



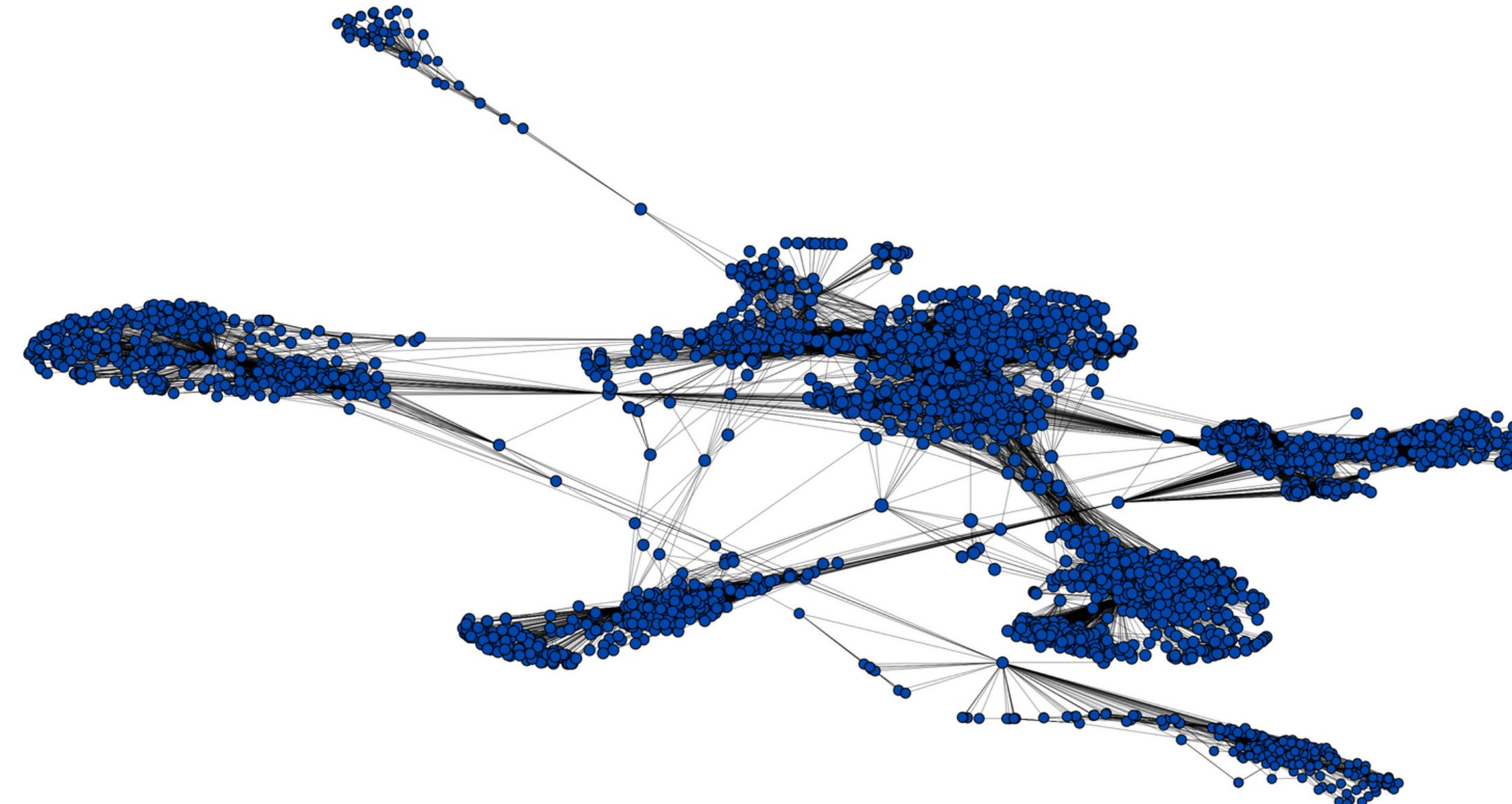
# Histogram of Closeness Centrality



The closeness centrality values of nodes in the graph G.



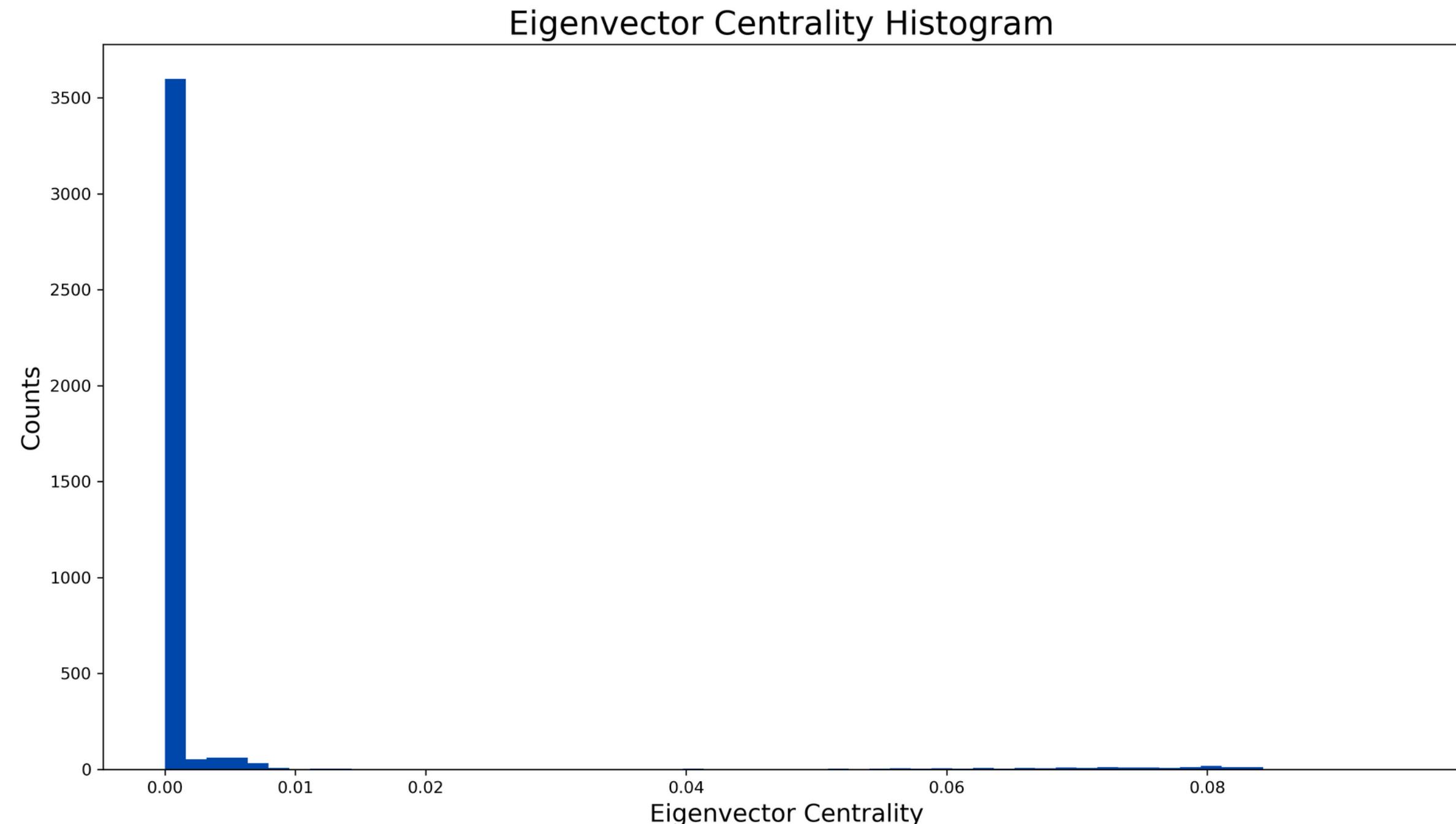
# Network Graph of Closeness Centrality



The closeness centrality values of nodes in the graph G.



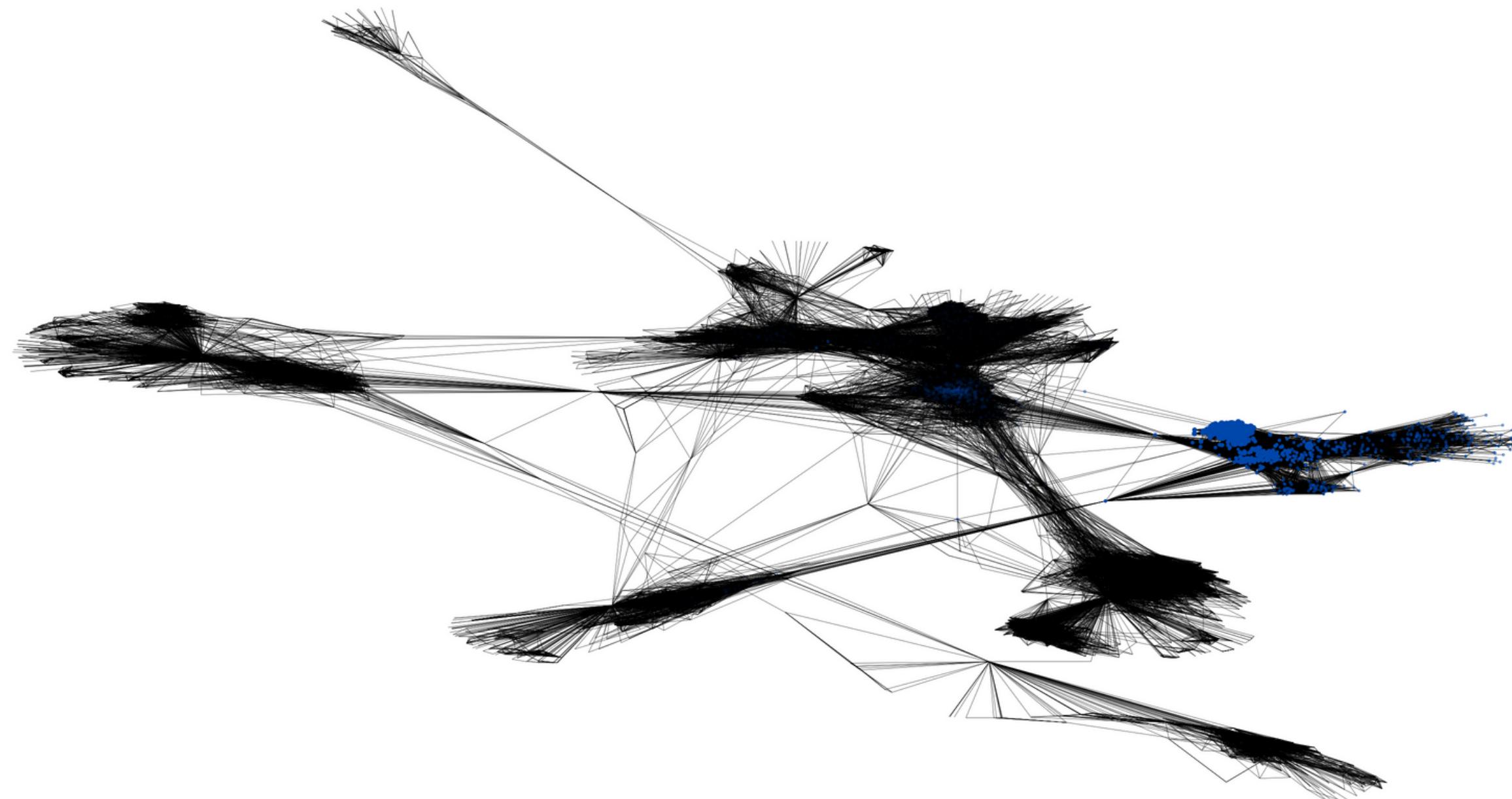
# Histogram of Eigenvector Centrality



The eigenvector centrality values of nodes in the graph G.



# Network Graph of Eigenvector Centrality



The eigenvector centrality values of nodes in the graph G.

# Conclusion



The network exhibits **high connectivity and clustering**, typical of a social network. Moreover, it was identified that the majority of users have **relatively low degree centralities**, suggesting a hierarchical structure dominated by a few highly connected nodes. Metrics like betweenness, closeness, and eigenvector centralities provided further understanding of the network's dynamics, with **most nodes having modest influence**.



Group 2 | Carreon | Lucas | Peralta | Quipit

**THANK  
YOU!**