Over the years, network centralities have been used many different purpose (expand a bit ) that range from traffic network to brain networks. However, there’s been very little effort to explore network discrimination through centrality measures.

In their work, Wang and Krim[1] showed that discrimination of graph networks are possible through centrality measures. They showed that degree centrality and clustering coefficients were enough to discriminate networks and adding Betweenness Centralities, Eigenvector Centralities or Closeness Centralities degraded the results. However, they only used two small sample datasets for their study.

1.Statistical Classification of social networks.

In his study Dwyer[2] showed that visual analysis to explore and compare the centralities within a given network was possible. In the study the centralities were drawn on a 2D plane that was mapped to 3D plane. Three different methods were employed to this purpose and these were 3D parallel Coordinates-based Comparison, Orbit based comparison and hierarchy based comparison.

2. Visual Analysis of Network Centralities

Gretel and Paolo[3] used Betweenness centrality to automatically summarize text. In order to do so, they represented the text as an indirected weighted graph where each sentence was represented as a bag of words. They also used similarity/dissimilarity criterion to represent the semantic relation between nodes. Afterwards, a ranking algorithm was used which was based on Betweenness centrality.

3. Automatic Text Summarization based on Betweenness Centrality [check the names I think made mistake not using last name]

Wu[4] proposed a novel graph clustering algorithm which used Betweenness centrality recursively to create groups of clusters called LEADER which guided the algorithm to cluster the whole network.

4. “Follow the Leader”: A Centrality Guided Clustering and Its Application to Social Network Analysis

Huang et el.[5] proposed a visual analytics method to explore urban traffic mobility patterns. They used Pagerank and Betweenness centralities to calculate the more central/ important streets. Pagerank detected hub streets and Betweenness detected street/region that acted as back-bone in urban networks.

5. TrajGraph: A Graph-Based Visual Analytics Approach to Studying Urban Network Centralities Using Taxi Trajectory Data

Crucitti[6] used Closeness, Betweenness, Straightness and information centralities to capture street patterns of different cities of the world. They proposed that a hierarchichal clustering based on distribution of centrality measures are capable of distinguishing different cities to some extent.

6. Centrality measures in spatial networks of urban streets

Zhang[7] used degree, betweennesss and closeness centrality to calculate different road patterns. The aim of their study was to discriminate different road patterns using centralities. The centralities were calculated using a topological network representation of the road networks.

7. Centrality Characteristics of Road Network Patterns of Traffic Analysis Zones