

Social Network Analysis

Network Science

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Preview

Some information about graph

- Total count of friends (nodes): 221
- Total count of connections(edges): 2927
- Graph density: 0.120403126285
- Number of connected components in graph: 2
- 1. Number of nodes: 220, number of edges: 2927
- 2. Number of nodes: 1, number of edges: 0

Degree distribution and some statistic

- Diameter of graph: 7
- Average length of shortest paths: 2.46724782067
- Average clustering coefficient: 0.559126839578

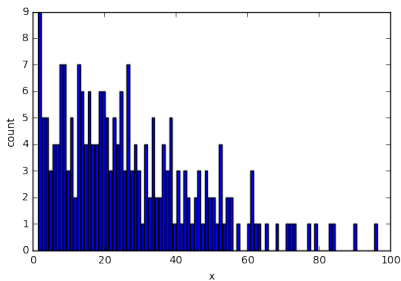
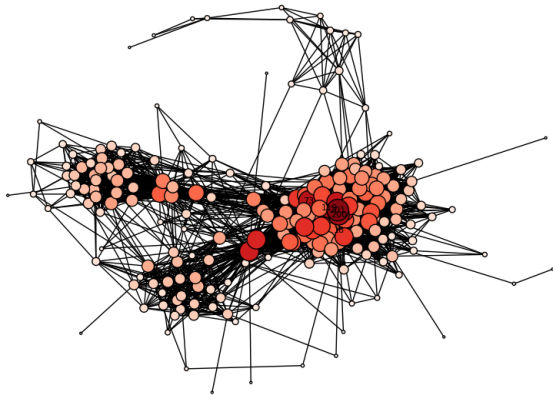


Рис.: Degree distribution

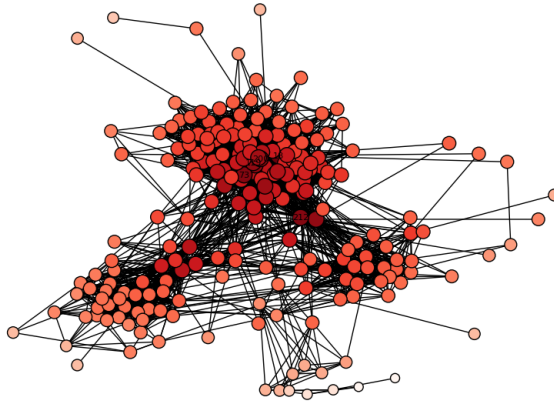
Centrality measures

Degree centrality



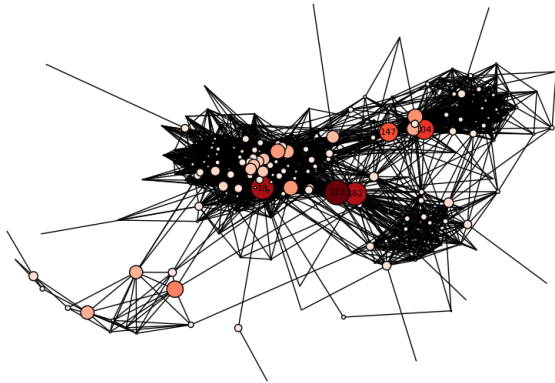
Centrality measures

Closeness centrality



Centrality measures

Betweenness centrality



Page Rank vs Degree Centrality

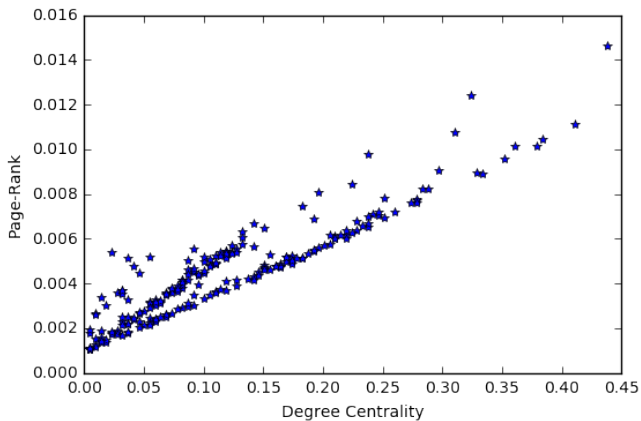


Рис.: Page rank vs degree centrality

Node similarity

Before

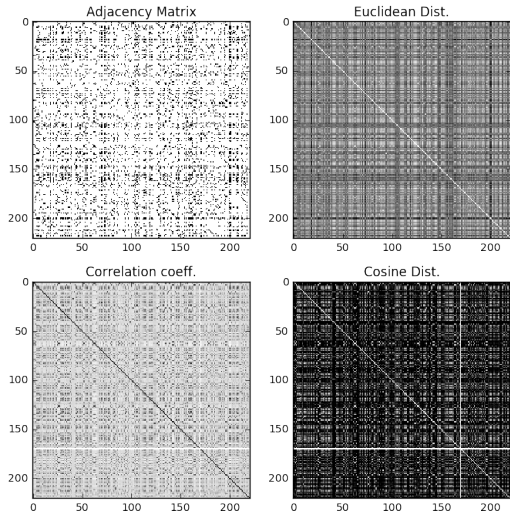


Рис.: Node similarity 1

Node similarity

After

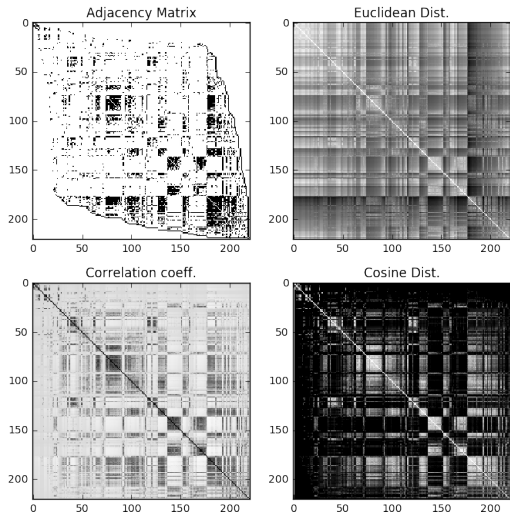


Рис.: Node similarity 2

Random graphs

Original

- Diameter of graph: 7
- Average length of shortest paths: 2.46724782067
- Average clustering coefficient: 0.559126839578

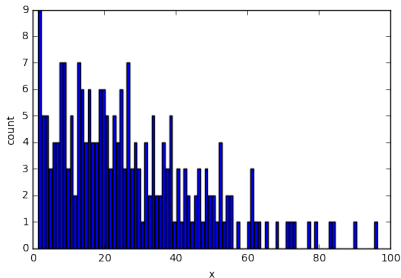


Рис.: Degree distribution

Random graphs

Erdos Rheny

- Diameter of graph: 3
- Average length of shortest paths: 1.91589871316
- Average clustering coefficient: 0.121797564512

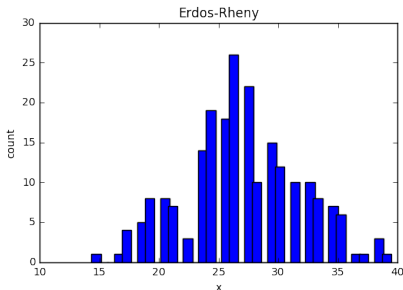


Рис.: Erdos Rheny model

Random graphs

Barabasi Albert

- Diameter of graph: 3
- Average length of shortest paths: 1.96741386467
- Average clustering coefficient: 0.199807831136

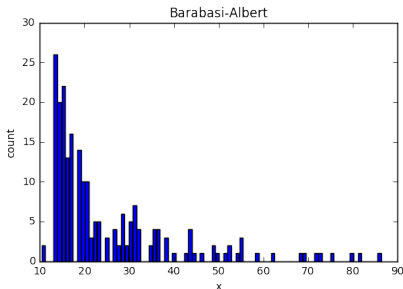


Рис.: Barabasi Albert model

Random graphs

Watts Strogatz

- Diameter of graph: 3
- Average length of shortest paths: 2.10078870901
- Average clustering coefficient: 0.391848586412

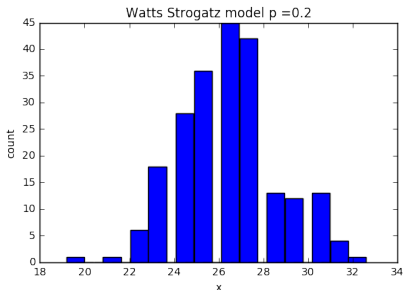
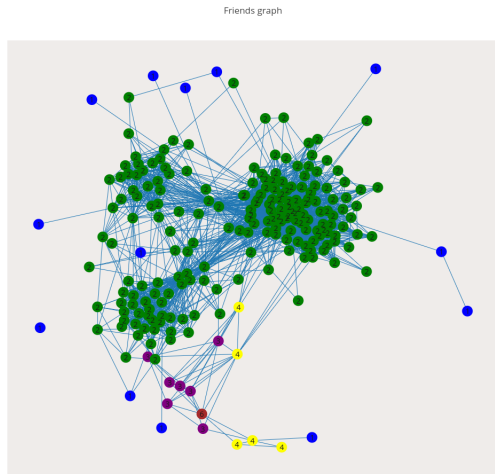


Рис.: Watts Strogatz model

Community detection

Clique search



Community detection

Community library

Friends graph

