

Social Network Analysis- Assignment-1

(Marks: 10)

Due: 3rd April 2021

March 27, 2021

Select a social network dataset from SNAP website. Choose a small one, with about 10K nodes and carry out the network analysis.

- First give the name of the data set and the basic details of the data set: Number of nodes and Edges, directed/undirected, weighted/unweighted etc.
 - Do the entire experimentation on the GCC. Compute the measures listed below and write your observations for each of the measures.
1. Number of Connected components
 2. Greatest connected component(GCC)
 3. Radius
 4. Diameter
 5. Density
 6. Degree centrality
 7. Closeness centrality
 8. Betweenness centrality
 9. Clustering coefficient

Plot:

Plot the degree distribution for the network and observe powerlaw by finding the best fit curve for the data.

Experiment:

Experiment by recursively removing the nodes one by one of highest betweenness centrality and observe the network until the network is broken down into multiple components. Write your observations.

Submission rules:

Submit the assignment in the moodle page with file name as REGNO_A1.pdf(ex. 19MCPC01_A1.pdf) in pdf format.