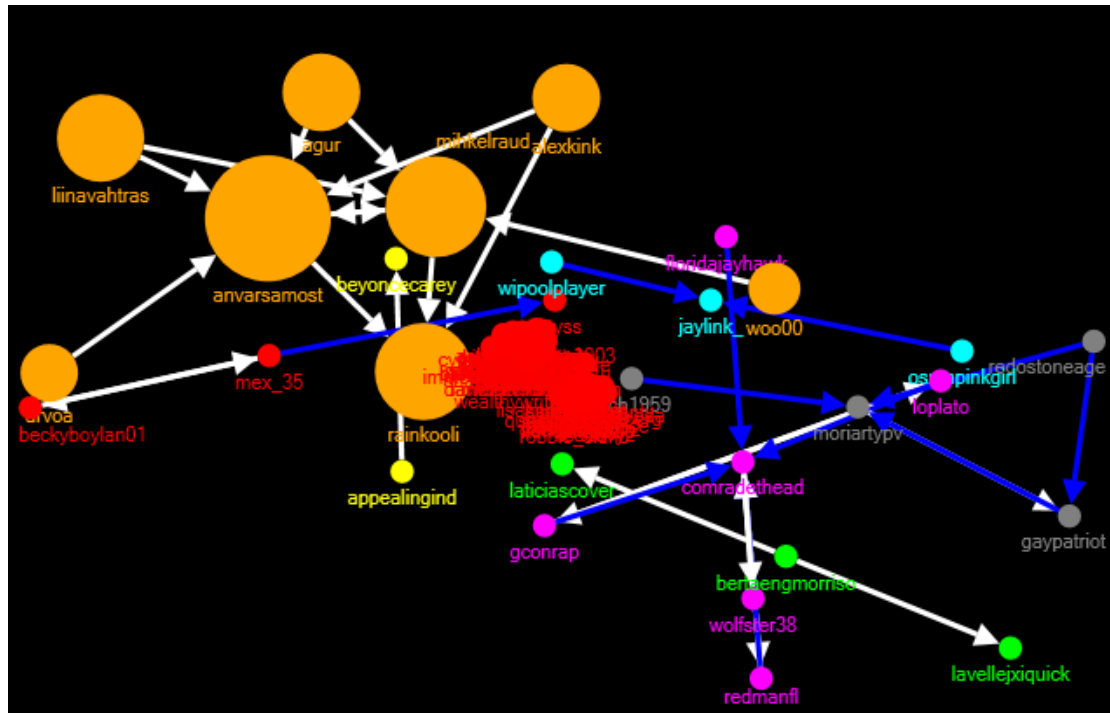


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I choose the topic "Nobel Prize" as the key words to create a list of vertices. Each vertex represents a person whose tweet contains the key words.

There are a number of features of the graph for the list of vertices that I made by NodeXL shown as below.



Created by NodeXL (<http://nodexl.codeplex.com>)

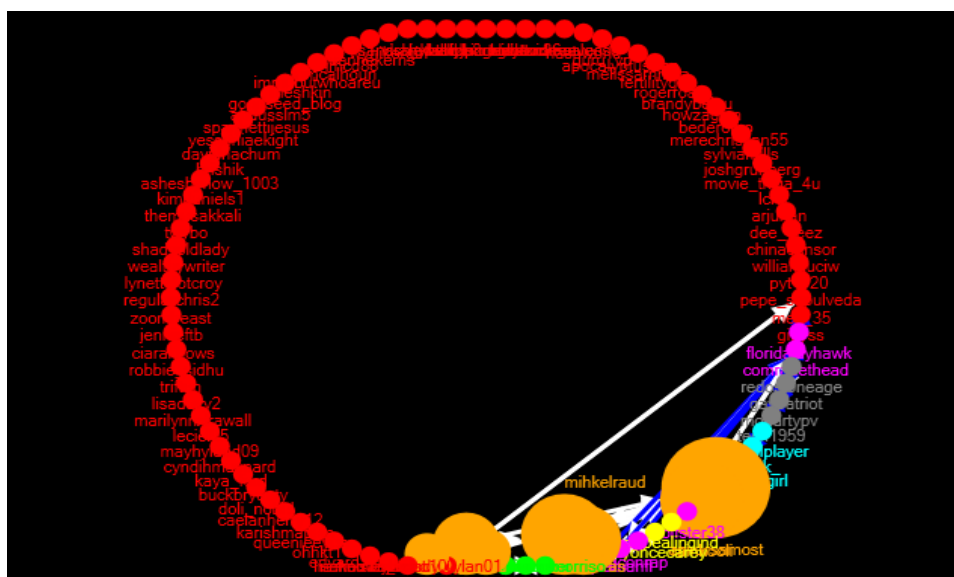
Firstly, there are roughly two big clusters of 100 people, one on the upper left side, the other one on the lower right side. With the help of NodeXL, I come to define all people into more specific subclusters marked by different colors and there are seven different clusters in total. Secondly, the edges with arrows show two different relationships between vertices. The ones with white color show that person A mentioned person B in person A's tweets. The ones with blue color show that person A follows person B. Thirdly, the size of each vertex is explained by its degree of eigenvector centrality of itself. The higher the degree of eigenvector centrality is, the bigger size the vertex gets. In the graph, I define the important people to be those who have high degree of eigenvector centrality among the people on the list.

I did some research to find the reasons why people are grouped into seven different clusters. The orange group dominates the majority of the cluster on the upper left side and they have relatively higher eigenvector centrality than the other groups. As the results of calculation of graph metrics shows, the person Anvarsamost serves as a central person who has the highest degree of betweenness centrality as well as the highest degree of eigenvector centrality. So these numbers indicate that Anvarsamost does not only bridge between a lot of unconnected common people but also bridges between many important people who as well have relative high degree of eigenvector

centrality. I went to twitter to search for more of Anvarsamost's information and I found he is an Estonian. I cannot really read some of his writings in Estonian but there is one thing that I think makes a difference is that he is a journalist. I can tell that he posts a lot of things from the news with his comments on it for some of the keys words are always in English such as global warming, Nobel Prize, meeting between Obama, Chinese president in the White House and so on. And I guess he is good at making comments and very popular because more than 1500 people follow him though he only follows less than 80 people.

And I tried to find if there was also other career information of the other people who have high degree of eigenvector centrality in the orange group and fortunately I did find they mostly have a stable, well-paid job, they have relatively big number of followers, and seven of the total eight people in the orange people are currently living in Estonia. Thus, I came to the conclusion that people in the orange group are mostly highly educated Estonian people, they are likely to pay attention to discussed topics and current new such as the Nobel Prizes, and they are possibly acquaintance with each other. And these explain why they are important among the people on the list.

The graph also shows that pink group and gray groups are two big groups within the cluster on the right side. I also search information for the members of each group. We can tell from the graph that Gconrap, Comradethead, Lolato, Wolfster38, and Redmanfl are mutually very connected in the pink group. Comradethead is the center person in the pink group for its higher betweenness centrality and there are three other people in the same group following him. And I also found three members of the pink group claimed they have conservative political views and four of them are currently living in the California. From their tweets, I also found they share a lot of view of popular issues such as health care policy. These information explains why these people are grouped together is because they share some interests and political views. However, I did not find enough information to explain about the existence of gray group.



Furthermore, according to the algorithm of circle lay out of the graph, it is obvious that vertices in red are not connected to other vertices, including the vertices of other

groups and vertices of the red group. That is the reason why these vertices are in the same group.