Abstract

Social networik phenomenom is becoming an integral part of internet users in recent years, this did invite some people to do some research on the patterns of interaction among its users, ranging form aspect of communication, information to measure the level of popularity of a user, this research known as Social Network Analysis, there was some methods that can be used for measuring user level of popularity callled centrality, one of them is betwenness centralilty. But the calculation with this method take a long time for large social network data. There is an algorithm that has fast time performance for measuring betwenness centrality, which is the Ulrik Brandes algorithm. Ulrik Brandes's primary feature is based on accumulation technique, where the betweenness of a node can be computed as the sum of the contribution of all the shortest path starting from each node of the graph taken in turns. In this research, the author tried to measure the popularity of a node in social network to implement the method of Ulrik Brandes.

Keywords: *social network analysis*, *social network*, *betweenness centrality*, *Ulrik Brandes*