2.2 Community detection

Communities in a network are group of nodes that are distinguishable from the rest of the nodes in the network [1]. In a social network, communities represent group of individuals in the network that are densely connected to each other than to the rest of the group in the network.

Community detection is the task of discovering groups of nodes/individuals in a network based on their structural attributes. This is often a difficult task in a large-scale network with millions of nodes and edges, such as in a social network or biological network (example, protein-protein interaction network). In such a huge network, one often need a community detection algorithm to unravel the structure and dynamic characteristics of the network.

Various community detection algorithms exist which are able to detect non-overlapping, overlapping and nested communities in a network. In this work, major focus will be on the study and application of the algorithms that are used to detect non-overlapping and overlapping communities. Some of these algorithms will be reviewed in chapter three.

2.2.1 Non-overlapping community

Reference

Yang B, Liu D, Liu J (2010) Discovering communities from social networks: methodologies and applications. In Handbook of social network technologies and applications. Springer, New York, pp 331–346