

Community Structure Detection in Networks Based on Bee Colony

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Abstract : In this paper, we propose a new method to find the community structure in networks. Our method is based on bee colony and the maximization of modularity to find the community structure. We use a bee colony algorithm to find the first community structure that has a good value of modularity. To improve the community structure, that was found, we merge communities until we get a community structure that has a high value of modularity. We provide a general framework for implementing our approach. We tested our method on computer-generated and real-world networks with a comparison to very known community detection methods. The obtained results show the effectiveness of our proposition.

Keywords : bee colony, networks, modularity, normalized mutual information

Conference Title : ICSMEMA 2018 : International Conference on Social Media Engineering, Mining and Analysis

Conference Location : Rome, Italy

Conference Dates : September 17-18, 2018