

Public Abstract

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Title:Cohen's Kappa as a Method for Link Prediction

As network data gains popularity for research in various fields, the need for methods to predict future links or find missing links in the data has increased. One subset of the methodology used to solve this problem involves creating a similarity measure between each pair of nodes in the network. Currently, these algorithms are not performing as well as needed. Here we present a new method, using Cohen's kappa, to create a similarity measure between nodes. The effectiveness of this method is then compared to a number of other similarity measures and assessed on a variety of simulated data sets with block model structure. Since Cohen's kappa can also provide information on dissimilarity, we then go on to test its use for detecting incorrect links in network data.