

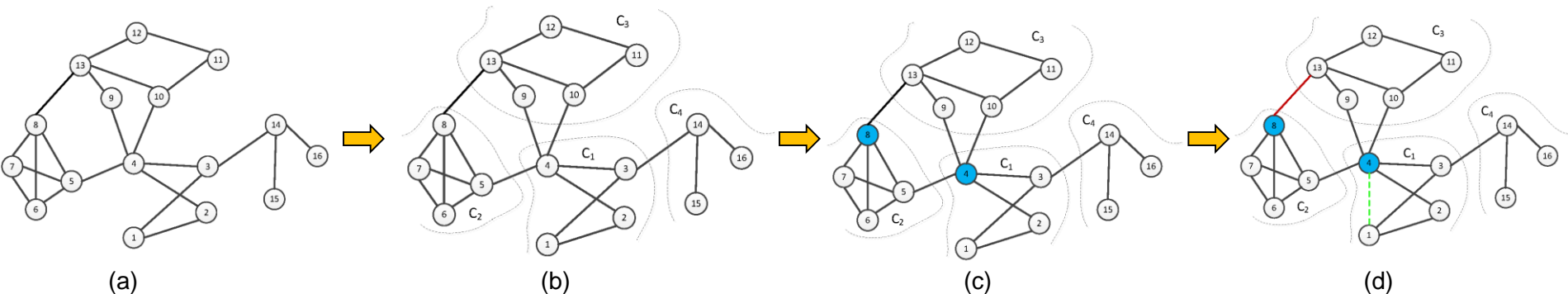
SSDBA: the stretch shrink distance based
algorithm for link prediction
in social networks

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Problems & Ideas

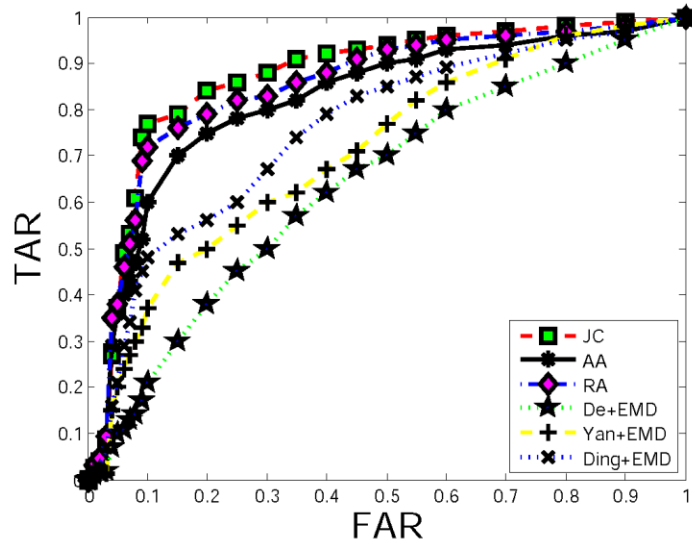
- Problems of link prediction in social networks
 - Predict the appearance of new links
 - Predict the disappearance of existing links
- Ideas: Stretch Shrink Distance Based Algorithm (SSDBA)
 - Step1: Community Detection
 - Step2: Active Nodes Identification
 - Step3: Distance Iterative Calculation
 - Step4: Link Prediction



(a) original network; (b) community components; (c) active nodes (blue); (d) Links prediction results: red link will disappear and green link will appear.

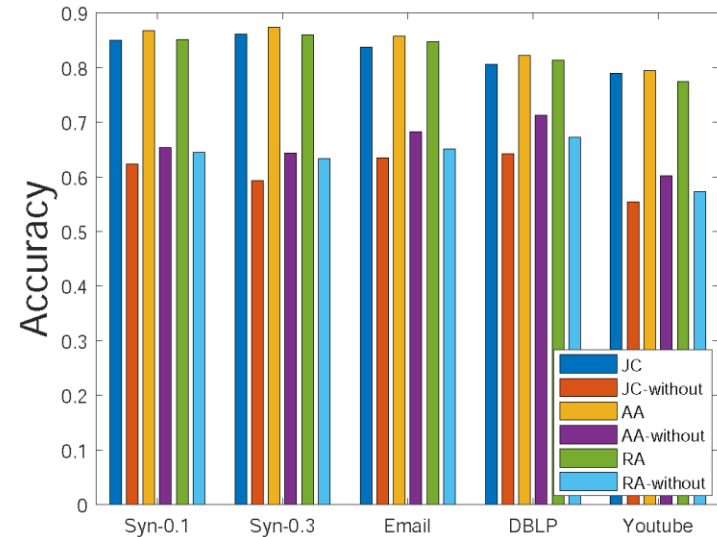
Main Contributions

- Compare with other algorithms



We compare our algorithm framework (including JC, AA, RA in SSDBA) with other existing methods on Youtube network. We can see from the figure that our method is better than the comparison methods since the score TAR/FAR is higher.

- Community detection effect



We evaluate the effect of community detection on each network. From the figure, we can see that the results of method with community detection are larger than the results of method without community detection. The results also show the importance of community detection and its ability to improve the prediction accuracy.