Community Detection with LabelRank

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Thank you for using our LabelRank algorithm (aka GANXiS-S). LabelRank can be used for disjoint community detection. Currently, we only support unweighted undirected networks. Should you have any questions or comments, please send emails to jierui.xie@gmail.com or szymansk@rpi.edu.

For more information about this algorithm, please refer to our paper [1].
Download: `https://sites.google.com/site/communitydetectionslpa/`

1 Compile

This is a C++ version.

To compile on Linux/Unix platforms (need g++):

make

To run:

./LabelRank netName cutoff(r) inflation(in) NBDisimilarity(q)

e.g., ./LabelRank test.ipairs 0.1 2 0.6

For help:

./LabelRank

2 Input format for undirected networks

LabelRank accepts a file containing a list of edges. Each row represents an edge. It is of the form (node1 node2), meaning there is an edge from node1 to node2. The name (or ID) for a node is an integer. The algorithm will automatically make edges symmetric to produce undirected networks. That is, if there is an edge (i j), there will be a corresponding edge (j i). See test.ipairs for examples.

NOTE: it is fine to provide a weight, e.g., (i j weight). Since we currently not support weighted networks, weights will be ignored.

3 Output format

Detection results are put in the output directory. Each file (.icpm) is a cover/partitioning. Each line contains nodes in a community.

4 Copyright and Disclaimer Notice

5 References

[1] Jierui Xie, Boleslaw K. Szymanski and Xiaoming Liu, *LabelRank: A Stabilized Label Propagation Algorithm for Community Detection in Networks*, IEEE NSW, West point, NY, 2013.