Data for: AFIF: Automatically Finding Important Features in Community Evolution Prediction for Dynamic Social Networks

https://data.mendeley.com/datasets/67pypfbfjr/3

Description

Networks

DBLP network is divided into eleven time windows (time span 01/01/2003 to 31/12/2013).

Facebook Wall Posts network is divided into eight time windows (time span 01/01/2005 to 31/12/2008).

Enron email network is segmented into twelve time windows (time span 01/01/2001 to 31/12/2001).

Stack Overflow network is segmented into six time windows (time span 24/01/2016 to 29/02/2016).

Social group discovery

Communities of each time window are discovered using Infomap, Label Propagation, and Leiden algorithms. For running the community detection algorithms, we assume that the networks are undirected and unweighted graphs. The communities whose size was smaller than two members were ignored.

Community evolution tracking and chain identification

In order to track community evolution, we investigate each community to find its similar community or communities from previous time windows, which is called community matching. We employed ICEM (Identification of Community Evolution by Mapping) method in order to determine the evolution events because it is a highly efficient approach to track community evolution and considers partial evolution and non-consecutive time windows.

We extracted chains of evolution with a length of four because it is stated that the recent history of a community has the most effect on its next evolution.

Enron

X___Enron___Infomap___X.csv

https://drive.google.com/file/d/13EMHhz0FpKre3kUYKUpIiAeJMOEWDhg4/view?usp=sharing

y___Enron___Infomap___y.csv

https://drive.google.com/file/d/1VgzZ9Iwzq2hV9HOTVZ4jQpaDAwTEYukU/view?usp=sharing

StackOverflow

X___StackOverflow___Infomap___X.csv

https://drive.google.com/file/d/10KJldkw-05Q-xdMbCuUd-h1ffRH4KXYm/view?usp=sharing

y___StackOverflow___Infomap___y.csv

https://drive.google.com/file/d/1WvUJIjPmqlnhmAlkkUxvVT4vVMn8AbVZ/view?usp=sharing

FacebookWallPosts

X___FacebookWallPosts___Infomap___X.csv

https://drive.google.com/file/d/1TRYWM2kU2bsnzEe4ROHmYzHAq7XdcPGf/view?usp=sharing

y___FacebookWallPosts___Infomap___y.csv

https://drive.google.com/file/d/1ngRWeP_46c_bHi6ZO6nY8Ks-N1o96eoT/view?usp=sharing

DBLP

X___DBLP___Infomap___X.csv

https://drive.google.com/file/d/1AmCl-fo_BnijCzA6mn7ptOpAw2jfuPRF/view?usp=sharing

y___DBLP___Infomap___y.csv

https://drive.google.com/file/d/1F94QFZupoNiR8uUe6-uz-8vt3Dg4-ymQ/view?usp=sharing

X___DBLP___Label-Propagation___X.csv

https://drive.google.com/file/d/1-6XiLWfJq9HTSgknJY1scrag5cHFrR7k/view?usp=sharing

y___DBLP___Label-Propagation___y.csv

https://drive.google.com/file/d/1-17YydAKzidXPzMrLIH1sXeBgvF37RCH/view?usp=sharing

X___DBLP___Leiden___X.csv

https://drive.google.com/file/d/1_O2uAmjIrX0aq488v-D3FVjRcXCeOgOQ/view?usp=sharing

y___DBLP___Leiden___y.csv

https://drive.google.com/file/d/1YIhnVV0MTySKJaa7siZ0N5nDATCpO4fc/view?usp=sharing

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