EgoNet-UIUC: A Dataset For Ego Network Research

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1 Overview

In this report, we introduce the version one of EgoNet-UIUC, which is a dataset for ego-network research. In literature, an ego-network is defined as a network around an individual node, which contains relationships between the individual node and its neighbors and the relationships among the neighbors. Specifically, we collected the 230 ego networks from Linkedin during 2013. In total, there are 33K users (with their attributes) and 283K relationships (with their relationship types). We name the dataset as EgoNet-UIUC, which stands for Ego Network Dataset from University of Illinois at Urbana-Champaign.

In this report, we will explain how we collect EgoNet-UIUC in Section 2, describe EgoNet-UIUC in details in Section 3, and provide instructions about how to obtain EgoNet-UIUC in Section 4.

2 Creation

EgoNet-UIUC (version 1) was originally collected from May to Aug 2013. We conducted a research study\(^1\) to collect the data. Initially, we invited a set of seed users to participate in our study online. Those users can further invite their friends to join. If a user participates our study, we collect his attributes (including Location, Education, and Work) and his ego network (including the relationships from the ego user to his friends and the relationships among his friends) based on Linkedin APIs, and we also ask the ego user to label his relationships with his friends from 11 categories in three domains (Personal Community, Work and School). Figure 1 shows the different categories of relationship types and their percentages in the dataset.

By the end of the study, we collected about 230 users’ ego networks. There are about 33K users with attributes (i.e., 230 users are linked to 33K friends in total), and 283K relationships, which include 1) 33K relationships from ego users to their

\(^1\)http://forward.cs.illinois.edu/demos/linkedin/about.html
Figure 1: Percentages of Different Types of Relationships

friends and 2) 250K relationships among their friends. Among the 33K relationships between ego users and their friends, 15K relationships are labeled. To protect participants’ privacy, we anonymized all users’ attributes and their relationship labels by transferring them to ids.

3 Description

Now, we describe EgoNet-UIUC in details. Specifically, the dataset contains the following two zip files.

- EgoNetUIUC-LinkedinCrawl-Aug2013-Network.zip contains 280K user relationships and 15K relationship labels,

- EgoNetUIUC-LinkedinCrawl-Aug2013-Profiles.zip contains different attributes of 30K users.

EgoNetUIUC-LinkedinCrawl-Aug2013-Network.zip contains two txt files, relationship.txt and label.txt. relationship.txt contains 280K relationships from 230 ego networks. Each relationship is a connection from a user to another user in an ego network. Figure 2 illustrates its format with a concrete example. In the example, a record “U0 U0 U1” means that, in U0’s ego network, U0 connects to U1. label.txt contains labels for 15K relationships between ego users’ and their friends. Each relationship is labeled by the ego user from the categories in Figure 1. The label (e.g., school:graduate) indicates the semantic of the relationship (e.g., they are classmates in their graduate school). We emphasize that the labeled relationships only contain the connections between the ego users and their friends. Figure 3 illustrates its format with a concrete example. Here, a record “U10305 U10369 C2” means that the type of relationship between U10305 and U10351 is C2.

EgoNetUIUC-LinkedinCrawl-Aug2013-Profiles.zip contains three txt files: location.txt, education.txt, and position.txt. Each file records users’ attribute values for a particular attribute (e.g., location). The attribute associated with a file is indicated by the file name (e.g., location). A user may have multiple values for an attribute (e.g., a user may have multiple occupations). Figure 4 illustrates the format of one of the files with examples. In the figure, U346 is UserID, 2 is the number of values associated with the attribute (e.g., education), and E0 is an attribute value.
4 Usage

EgoNet/UIUC is created for research purpose only. To obtain and use the dataset, you must agree with the following rules.

- Use the data only for research.
- Not distribute the data to others.
- Participate in the research study\(^2\).
- Cite this report appropriately in publications.

If you agree with the above rules, please send an email request to Rui Li (ruili1@illinois.edu). In the email, please clearly identify yourself (with your name and organization), and clearly state that you agree with the above rules. We need your name just for tracking the distribution of the dataset.

If you have any additional questions about the dataset, please email Professor Kevin Chang, or his student Rui Li. We also maintain an online description\(^3\) for this dataset.

\(^2\)http://forward.cs.illinois.edu/demos/linkedin/about.html
\(^3\)https://wiki.engr.illinois.edu/display/forward/Dataset-CP-LinkedinCrawl-Aug2013