

K-Anonymity in Social Networks: A Clustering Approach

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Abstract

The proliferation of social networks, where individuals share private information, has caused, in the last few years, a growth in the volume of sensitive data being stored in these networks. As users subscribe to more services and connect more with their friends, families, and colleagues, the desire to use this information from the networks has increased. Online social interaction has become very popular around the globe and most sociologists agree that this will not fade away. Social network sites gather confidential information from their users (for instance, the social network site PatientsLikeMe collects confidential health information) and, as a result, social network data has begun to be analyzed from a different, specific privacy perspective. Since the individual entities in social networks,

besides the attribute values that characterize them, also have relationships with other entities, the risk of disclosure increases. In this talk we present a greedy algorithm for anonymizing a social network and a measure that quantifies the information loss in the anonymization process due to edge generalization.

Biographical Sketch

Traian Marius Truta is an associate professor of Computer Science at Northern Kentucky University. He received his Ph.D. in computer science from Wayne State University in 2004. His major areas of expertise are data privacy and anonymity, privacy in statistical databases, and data management. He has served on the program committee of various conferences such as International Conference on Database and Expert Systems Applications (DEXA), Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), ACM Symposium of Applied Computing (SAC), and International Symposium on Data, Privacy, and E-Commerce (ISDPE). He received the Yahoo Research! Best Paper Award for Privacy, Security, and Trust in KDD 2008 (PinKDD) for the paper "A Clustering Approach for Data and Structural Anonymity in Social Networks" in 2008. For more information, including the list of research publications please see: <http://www.nku.edu/~trutat1/research.html>.