



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 4, April 2017

A Survey on Trust in Social Networks

Dr. B. Umadevi¹, P.Bharathi²

Assistant Professor & Head, P.G. & Research Department of Computer Science, Raja Doraisingam Govt. Arts College, Sivaganga, TamilNadu, India¹.

Research Scholar, P.G. & Research Department of Computer Science, Raja Doraisingam Govt. Arts College, Sivaganga, TamilNadu, India².

ABSTRACT: Web-based social networks have become popular as a medium for disseminating information and connecting like-minded people. The public user-friendliness of such networks with the ability to share opinions, feelings, information, and experience offers great promise to enterprises and governments. In count to individuals using such networks to connect to their friends and families, government and enterprises have started exploiting these platforms for delivering their services to citizens and customers. But, the success of such attempts relies on the level of trust that members have with each other as well as with the service provider. Then, trust becomes an essential and important element of a successful social network. In this article, present the first comprehensive review of social and computer science literature on trust in social networks. First, review the existing definitions of trust and define social trust in the context of social networks. Then discuss recent works addressing three aspects of social trust: trust information collection, trust evaluation, and trust distribution. Then compare and contrast the literature and identify areas for further research in social trust. Finally, point Advantages of addressing data -consuming activities through a tight integration of a parallel database server and data mining techniques.

KEYWORDS: Trust Management Social Networks; People Trust; Trust Modals.

I. INTRODUCTION

Data mining [1][2] is the exploration and analysis of large data sets, in order to discover important pattern and rules. The objective of data mining is planned for, and work best with large data sets. Data mining is the module of a wider process called knowledge discovery from the database [3].

The social network is a look apply to explain web-based services that allow individuals to create a public/semi-public profile within a domain such that they can communicatively connect with other users within the network [4]. The social network has improved on the concept and technology enabling the formation and exchange of User-Generated Content [5].

Simply put, a social network is a graph consisting of nodes and links used to represent social relations on social network sites. Social networks are important sources of online interactions and contents sharing, subjectivity, assessments, approaches, valuation, influence, observations, feelings, opinions and sentiments expressions borne out in a text, reviews, blogs, planning, news, remarks, reactions, or some other documents[6] [7]. Before the advent of the social network, the homepages was regularly used in the late 1990s which made it possible for average internet users to share information. But, the activities on a social network in recent times seem to have transformed the World Wide Web (www) into its intended original creation.

Social network platforms permit rapid information exchange between users regardless of the location. Many organizations, individuals and even government of countries now follow the activities on the social network. The network enables big organizations, celebrities, government official and government bodies to obtain knowledge on how their audience reacts to postings that concern them out of the enormous data generated on a social network. The network permits the successful collection of large-scale data which gives rise to the major computational challenge. But, the application of expert data mining techniques has made it possible for users to determine valuable, right and valuable understanding from social network data.

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirccce.com

Vol. 5, Issue 4, April 2017

II. RELATED WORK

Wilson et al. [8] have studied several different learning algorithms such as boosting, rule learning, /and maintain vector regression that can automatically distinguish between subjective and objective (neutral) language and also through weak, medium, / and strong subjectivity.

Acer et al. [9] develop a recommender system based on consumer product reviews. The authors apply text mining techniques to extract useful information from review comments and then done an ontology to translate the review information into a form suitable for utilization by a recommendation system

Sarwar et al. [10] propose a system that model item to article relationships and reveal that such systems deliver good quality recommendations in sparse data situations. The item-item method is also promising for incremental modeling and has big performance gain over user-user modeling.

Su and Khoshgoftaar [15] concentrated more on CF methods, including memory-based, model-based, and hybrid methods. This survey contains most state-of-the-art algorithms obtainable as of 2009, including Netflix prize competitors.

Breese et al. [16] compared two popular memory-based methods (Pearson correlation and vector similarity) and two classical model-based methods (clustering and Bayesian network) on three deferent datasets. A extra recent novel comparison of CF algorithms compare user-based CF, item-based CF, SVD, and some other model-based method, focus on e-commerce applications.

III. TRUST: DEFINITIONS AND MEASUREMENT IN SOCIAL NETWORK

Trust is widely accepted as a major component of human social relationships. In general, trust is a measure of confidence that an entity will behave in an expected style, despite the lack of ability to monitor or control the environment in which it operates. Fig. 1. explain that trust originated in different disciplines, leading to different types or facets of trust with different properties which ACM Computing Surveys.

A Survey of Trust in Social Networks requires different models. Next organize this section accordingly. We first discuss trust definitions in the primary disciplines concerned with trust relationships: psychology, sociology, and computer science, followed by the various types of trust indirect by these definitions.

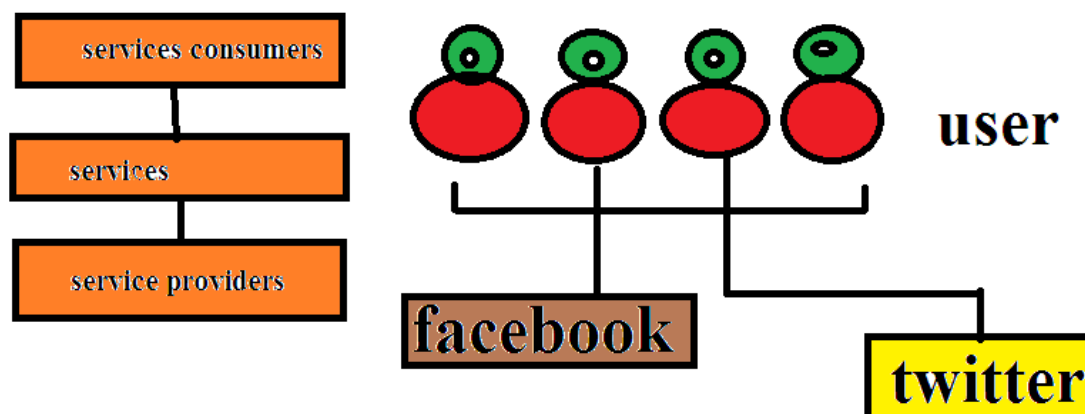


Fig. 1. Trust relationships during an online social network

Social networks can be used for analyzing complex relationships in a variety of disciplines, including anthropology, natural science, communication studies, economics, natural features, information skill, organizational studies, social psychology, and sociolinguistics. The concept of social networks has evolved more the years, and now social network analysis is a paradigm with its own theoretical statements, methods, software, and researchers. Studies



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 4, April 2017

have been done on different aspects of social networks and how they are affected by external factors. With the development of technology, Web-based social networks have proliferated. Sites operational in the Worldwide Web.

IV. COLLABORATIVE FILTERING

Collaborative filtering, as one of the mainly successful techniques, is based on the assumptions that people who have similar interests in terms of some items; they will have the same preferences in other items. So the goal of collaborative filtering is to locate the users who contain similar thoughts and preferences or to find the nearest neighbor of them. This method is carried out in three steps: reprocessing, similarity computation and prediction/recommendation generation. In preprocessing step, the user-item matrix is built. This matrix contains the ratings that represent the expression of user's preferences.

V. LATENT DIRICHLET ALLOCATION

Latent Dirichlet allocation (LDA) is a generative probabilistic model of a quantity. The fundamental design is that documents are be as informal combination over latent topics, anyplace each topic is characterized by a distribution over words. It is important to distinguish LDA from a simple Dirichlet-multinomial clustering variety. A standard clustering model would grip a two-level copy in which a Dirichlet is sampled once for a quantity, a multinomial clustering variable is selected once for each document in the corpus, and a set of vocabulary are selected for the document conditional on the cluster variable. As with several clustering models, such a model restricts a document to an individual associated with a single topic. LDA, on the other tender over, rivet three levels, and mostly the matter node is sampled repeatedly within the document. In this model, documents can be joined with several topics.

VI. PARTITIONING METHOD

The partitioning methods generally result in a point of M cluster, each object belonging to one cluster. Every cluster may be represented by a centroid or a cluster representative; this is some sort of summary description of all the objects contained in a cluster. The particular form of this description will depend on the type of the object which is being clustered. During case where real-valued data is presented, the arithmetic mean of the attribute vectors for all objects within a cluster provides an appropriate representative; alternative types of centroid may be required in additional cases, e.g., a cluster of documents can be represented by a list of those keywords that occur in some minimum number of documents within a cluster. If the number of the clusters is large, the centroids can be press on clustered to produces hierarchy within a dataset.

Partitioning organizes the objects of a set into several exclusive groups or clusters. It is a simplest and mainly original report of cluster analysis. These are two types.

A. K-Means:

K points [1] are set in the space produced by the objects. These points serve as initial group centroids. Each object is accredited to the group that has the side centroid. Recalculate the positions of the K centroids after all the objects have been assigned. This continues until the centroids no longer move. This produces a partition of the objects into clusters.

B. K-Medoids:

Randomly pick k of the n data points as the medoids. A medoid is a data summit the place dataset, whose average dissimilarity to all the data points is minimal. It is the most centrally located point in the set. Associate each data point to the closest medoid, for each medoid, 'd' and each data point 'p' associated to, 'd'. Swap, 'd' and 'p' to compute the total cost of the configuration, that is, the average dissimilarity of 'p' to all the data points connected to, 'd'. Pick the medoid, 'd' with the lowest cost of the configuration.



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirccce.com

Vol. 5, Issue 4, April 2017

VII. CONCLUSION

In this survey different data mining techniques have been used in social network analysis as covered. The technique range from unsupervised to semi-supervised and supervised learning methods. So future different levels of successes have independently achieved either with solitary or combined techniques. The outcome of the experiments conducted on social network analysis is believed to have shed more light on the structure and activities of the Social network. The different experimental results have in addition confirmed the relevance of data mining techniques in retrieving valuable information and contents from huge data generated on the social network. Future work will tend to investigate novel state-of-the-art data mining techniques for social network analysis. The survey will compare like data mining tools and recommend the most suitable tool(s) for the dataset to be analyzed.

REFERENCES

- [1] Oded Maimon, Lior Rokach, "Data Mining and Knowledge product management book", Springer Science production Media.Inc, pp.321-352, 2005.
- [2] Arun K Pujari, "Data Mining Techniques", pg. 42-67 and pg. 114- 149,2005.
- [3] Z.S. Chen, D.V.Kalashnikov, and S. Mehrotra, "Exploiting situation analysis for combining multiple entity resolution systems", In Proceedings of 2009, ACM worldwide Conference on Management of information (SIGMOD'09), 2009.
- [4] A.M. Kaplan, and M. Haenlein, "Users of the world connect! The challenges and opportunities of social media", Science direct, Elsevier, Business Horizons, 53, 59—68, 2010.
- [5] J.B.Thompson, "Media and modernity: A social statement of the medium", John Wiley & Sons, 2013.
- [6] T. Wilson, J. Wiebe, and R. Hwa, "Recognizing physically mainly significant and weak attitude clauses", Journal of Computational brainpower, vol. 22, no. 2, pp. 73-99, 2006.
- [7] M. Zhang, and X. Ye, "A generation model to unite topic importance and lexicon-based sentiment for opinion recovery", Proceedings of the 31st ACM Int. Conf. on Research and Development in sequence Retrieval (SIGIR-2008), 2008.
- [8] R. Zafarani, W. D. Cole, and H. Liu, "Sentiment Propagation in Social Networks: A Case Study in LiveJournal in Advances in Social Computing", Springer, pp. 413-420, 2010.
- [9] S. Aguiar, D. Zhang, S. Simo_, and J. Debenham, "Recommender system based on consumer product reviews", In WI'06 Conference Proceedings, pages 719(723), 2006.
- [10] B. Sarwar, G. Karypis, J. Konstan, and J.Riedl, "Item-based two-way filtering proposal algorithms", In WWW'01 convention Proceeding, 2001.
- [11] B. Umadevi, D. Sundar and Dr.P. Alli, "A Study on Stock Market Analysis for Stock Selection – Naïve Investors Perspective using Data Mining Technique", Intercontinental Journal of Computer Applications (0975 – 8887), Volume 34– No.3, 19 – 25, November 2011.
- [12] B. Umadevi and D. Sundar and DR.P. Alli, "An Effective Time Series Analysis for Stock Trend Prediction Using ARIMA Model for Nifty Midcap-50", International Journal of Data Mining & Knowledge Management Process (IJDMP), Vol.3, No.1, 65 – 78, January 2013.
- [13] B.Umadevi, D.Sundar and Dr.P. Alli, "An Optimized Approach to Predict the Stock Market Behavior and Investment Decision Making using Benchmark Algorithms for Naïve Investors", Computational intelligence and computing research(ICC),IEEE international conference on (IEEE Xplore Digital Library), 26-28 December, Pg. 1- 5, 2013.
- [14] B.Umadevi, D.Sundar and Dr.P.Alli, "Novel Framework For The Portfolio Determination Using Pso Adopted Clustering Technique", Journal of Theoretical and Applied Information Technology, Vol. 64 No.1 131 – 141, 10th June 2014.
- [15] Z.Huang, D.Zeng, and H.Chen. "A judgment of collaborative filtering recommendation Algorithms for e-commerce", IEEE smart Systems, 22:68{7}8, 2007.
- [16] S.Arora, R.Ge, and A. Moitra., "Learning topic models - available beyond sad", In FOCS, 2012.

BIOGRAPHY



Dr.B.UMADEV has received her Doctoral degree in Computer Science from Manonmaniam Sundaranar University, Tirunelveli, India. Currently working as Assistant Professor & Head- P.G and Research Department of Computer Science, Raja Doraisingam Government Arts College, Sivagangai-Tamilnadu, India. She has over 22 years of Teaching Experience and published her research papers in various International, National Journals and Conferences. Her research interests include Data Mining, Soft Computing and Evolutionary Computing. She got the Best Paper Award for her publication in the IEEE International Conference on Computational Intelligence and Computing Research held on 27th Dec 2013 at VICKRAM College of Engineering and Technology.



P. BHARATHI is a M.Phil Research Scholar in PG & Research Department Of Computer Science, Raja Doraisingam Government Arts College, Sivaganga, Tamilnadu, India. Her research interest includes in Data mining and its applications.