

Walaa Khaled Gad

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Education

Ph.D. Computer and Information Sciences (Information Systems Dept.), May 2010

Dissertation Title: *Text Clustering Based on Semantic Measures*

The work was done jointly between Faculty of Computer and Information Sciences (FCIS), **Ain Shams University(ASU), Egypt** and **University of Waterloo (UWaterloo), Canada**. A scholar student in the Pattern and Machine Intelligence (PAMI) Group, Faculty of Electrical and Computer Engineering, University of Waterloo, Canada.

M.Sc. Computer and Information Sciences, Ain Shams University, 2005

Thesis Title: Clustering Techniques for Network Planning in The Presence of Obstacles

B.Sc. Computer and Information Sciences, Ain Shams University, 2000

Research

Google scholar: <http://scholar.google.com.eg/citations?user=i-yARpYAAAAJ&hl=en>

Research Interest:

Data and Knowledge Mining, Text/Web Mining, Text Analytics, and Information Retrieval

Research Experience:

Ph.D. work, Text Clustering Based on Semantic Measures, 2005-2010

In this work, we designed and implemented Semantic-based model using VC++, Perl, and MATLAB to capture the meaning of the text in a formal structure. We utilized WordNet as an ontology in text clustering. In addition, the proposed model integrated the background knowledge into the process of clustering. In this model, we clustered documents based on single word semantic similarity analysis and phrase semantic similarity analysis as well. Moreover, we proposed a new Semantic Similarity Histogram based Incremental Document Clustering (SHC). The proposed SHC integrates the semantic relationships between documents to the incremental clustering. The main objective is to maintain high cluster cohesiveness, when a new document is added to the dataset.

The work was done jointly between Faculty of Computer and Information Sciences, Ain Shams University, and Faculty of Electrical and Computer Engineering, University of Waterloo, Canada.

MSC work, Clustering Techniques for Network Planning in The Presence of Obstacles, 2000 – 2005

In this work, we designed and implemented a network model using VC++ and GIS to choose the best location that houses the public exchanges to minimize the distances that the data need to travel to the closest exchange. We proposed a novel algorithm, The CSPw-CLARANS (Clustering with Weighted shortest Path- CLARANS). This algorithm performs effective clustering by taking obstacles entities and the weighted shortest paths issues into consideration. The CSPw-CLARANS treats the problem of

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planning in the presence of obstacles as a clustering around medoids problem where the clustering distances represent the weighted shortest path. It takes into the consideration the telecommunication constraints during the clustering to find the best locations for the exchanges. One of the main features of the algorithm is the reduction of the execution time without affecting the clustering quality.

Teaching Experience

Course Instructor for several courses including:

Ain Shams University, Faculty of Computers and Information Sciences (2013-2014):

Introduction to computer systems, Decision support systems

Future Academy (Fall 2013, Winter 2014):

Database management systems, File structures.

Teaching Assistant, Ain shams University, 2000 – 2007

Courses include Data and knowledge Mining, Information Engineering, Software engineering, system analysis and design, Database management systems, Electronics, logic design.

Publications

Tarek Hegazy, **Walaa Gad**, “Dynamic System for Prioritizing and Accelerating Inspections to Support Capital Renewal of Buildings “, Journal of Computing in Civil Engineering, 2013

Walaa Gad, Mohamed Kamel, ”Incremental Clustering Algorithm Based on Phrase-Semantic Similarity Histogram”, International IEEE Conference on Machine Learning and Cybernetics (ICMLC), Germany 2010.

Walaa Gad, Mohamed Kamel,” PH-SSBM: Phrase Semantic Similarity based Model for Document Clustering”, 2nd IEEE International Symposium on Knowledge Acquisition and Modeling (KAM), China 2009.

Walaa Gad, Mohamed Hashem, Mohamed Kamel, ”Semantic Relatedness and Similarity Measures for Document Clustering”, 4th International Conference on Intelligent Computing and Information Systems (ICICIS), Egypt 2009.

Walaa Gad, Mohamed Kamel, ”New Semantic Similarity Based Model for Text Clustering Using

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Extended Gloss Overlaps”, 6th International Conference on Machine Learning and Data Mining (MLDM), Germany 2009.

Walaa Gad, Mohamed Kamel, ”Enhancing Text Clustering Performance Using Semantic Similarity”, 12th International Conference on Enterprise Information Systems (ICEIS), Italy 2009.

L. Fattouh, O. Karam, M. A. El Sharkawy and **Walaa Khaled**. “The Clustering Gain of CSPw-CLARANS for Network Planning in the Presence of Obstacles”. Proceeding of International Conference on Computer Science, Software Engineering, e-Business and Applications (CSITeA'04), pp., Egypt, December 27-29, 2004.

Lamiaa Fattouh, Omar Karam, Mohamed A. El Sharkawy, **Walaa Khaled**, “Clustering for Network Planning”, WSEAS Transactions on Computers, Issue 1, Volume 2, ISSN 1109-2750, January 2003.

Lamiaa Fattouh, Omar Karam, Mohamed A. El Sharkawy, **Walaa Khaled**, “Clustering for Network Planning”, 2nd WSEAS International Conference on Artificial Intelligence, Knowledge Engineering, and Data Bases (AIKED 2003) Crete Island, Greece, August 11-13, 2003, pp 197-202 .

Omar Karam, Lamiaa Fattouh, Mohamed A. El Sharkawy, **Walaa Khaled**, “Efficient Network Planning Using The cspw-CLARANS Clustering Algorithm”, the 38th Annual Conference on Statistics, Computer Sciences & Operations Research, Cairo, Egypt, December 13-16, 2003, pp 155-171 .

Omar Karam, Lamiaa Fattouh, Mohamed A. El Sharkawy, **Walaa Khaled**, “CSPw-CLARANS: an Enhanced Clustering Technique for Network Planning Using Minimum Spanning Trees”, International Arab Conference on Information Technology (ACIT 2003), Alexandria, Egypt, December 20-23, 2003.