

Contents

Editorial i

Research

A Web Service-Based Approach to Integrated Information Management for Railway
Emergency Scenario-
ZHANG Zhen-Hai, XU Zhi-Long, ZHANG Yan-Peng, DANG Jian-Wu, SHEN Li-Xin 1

Digital Image Clustering Algorithm based on Multi-agent Center Optimization-
PAN Xin, H. Sagan 8

Data and Text Mining Techniques for Classifying Arabic Tweet Polarity-
Belgacem Brahim, Mohamed Touahria, Abdelkamel Tari 15

Technological Relatedness based on Co-classification Network Analysis:
A Case Study on Electricity Sector-
WEN Fang-Fang 26

Trajectory Prediction of Vessels based on Data Mining and Machine Learning-
Le QI, Zhongyi ZHENG 33

Application of K-means Algorithm to Web Text Mining Based on Average Density Optimization-
FAN Guang-Ling, LIU Yu-Wei, TONG Jan-Qiang, ZHAO Sheng-Hai, NIE Zhi-Quan 41

Research on Power Dispatching Automation System for Data Management of Power
Plant Substation-
Hongzhao Li, Qingsong Zhu, Fumin Yang 47

Sentence-Level Opinion Analysis for Chinese News Documents Based on
Sentiment Information of Social Tags-
Jen-Yuan Yeh, Shih-Yuan Chen 52

Book Review 63

Conference Notification 64

- First International Conference on Real Time Intelligent Systems (RTIS 2016)
- The Seventh International Conference on the Applications of Digital Information and Web Technologies (ICADIWT 2016)
- Fifth International Conference on the Future Generation Communication Technologies (FGCT 2016)
- Sixth International Conference on Innovating Computing Technology (INTECH 2016)

Editorial

We welcome our readers and researchers to read the issues of the fourteenth volume of the Journal of Digital Information Management. In the last thirteen years we strived hard to bring the new innovative research results to the JDIM readers. The first issue contains the following high technical research. In the opening paper on “**A Web Service-Based Approach to Integrated Information Management for Railway Emergency Scenario**”, the authors ZHANG Zhen-Hai, XU Zhi-Long, ZHANG Yan-Peng, DANG Jian-Wu and SHEN Li-Xin have proposed integrated information service System for web services based on based on the Business Process Execution Language.

PAN Xin and Sagan in the second paper on “**Digital Image Clustering Algorithm based on Multi-agent Center Optimization**” have proposed digital image clustering algorithm based on multi-agent center optimization in a multidimensional solution space.

Belgacem Brahim, Mohamed Touahria and Abdelkamel Tari in their paper on “**Data and Text Mining Techniques for Classifying Arabic Tweet Polarity**” have studied the effect of applying stemming and n-gram techniques for Arabic texts (tweets) on sentiment classification.

WEN Fang-Fang in the paper on “**Technological Relatedness based on Co-classification Network Analysis: A Case Study on Electricity Sector**” measure the relatedness between different subclasses in subjects using patent classification. The results give a lead to an improved understanding of technological development and evolving characteristics.

In the fifth paper on “**Trajectory Prediction of Vessels based on Data Mining and Machine Learning**” the authors Le QI and Zhongyi ZHENG advocated an intelligent model to solve the issue of the trajectory prediction of vessels based on data mining and machine learning methods.

In the next paper on “**Application of K-means Algorithm to Web Text Mining Based on Average Density Optimization**” the authors FAN Guang-Ling, LIU Yu-Wei, TONG Jan-Qian, ZHAO Sheng-Hai and NIE Zhi-Quan presented a method to improve web text clustering accuracy and integrity. They used the Adk-means algorithm which was used during the Internet text searching, proved to be a highly efficient information retrieval technology that can improve searching speed and accuracy.

Hongzhao Li, Qingsong Zhu and Fumin Yang in their paper on “**Research on Power Dispatching Automation System for Data Management Of Power Plant Substation**” discussed over how to process data information of power plant substation and improve preciseness of data during acquisition, transmission and controlling under the condition of increased access volume in power plant substation.

In the last paper on “**Sentence-Level Opinion Analysis for Chinese News Documents Based on Sentiment Information of Social Tags**” Jen-Yuan Yeh and Shihn-Yuarn Chen proposed an unsupervised method which derives implicit sentiment information from social tags to decide, in one document, which sentences are opinionated, as well as to annotate them with proper polarity labels.

The papers in this issue have addressed wider themes in many sub-domains of digital information management

Editors