



Guest Editorial: Big Data Analytics and Management in Internet of Things

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Abstract

The Special Issue of the *Journal of Information Technology Management (JITM)* is publishing very selective papers on information management, Internet of Things (IoT), Algorithms, Quality of Service (QoS), Tourists Perception, Technology in higher education, integrated systems, enterprise management, Self-Service Technology (SST), cultural thoughts, strategic contributions, management information systems, and cloud computing. We received numerous papers for this special issue but after an extensive peer-review process, eight papers were finally selected for publication. In the digital age, the management of electronic archives became a trend as well as the focus of management development in many institutions.

Keywords: Big Data; Internet of Things; Machine learning; Technology; Education; Fraudulent activities.

Overview of the Submissions

The development of the Internet of Things (IoT) becomes the basic need of the current modern society; IoT systems allow users to achieve deeper automation, analysis, and integration within a system. They improve the reach of these areas and their accuracy. IoT utilizes existing and emerging technology for sensing, networking, and robotics. IoT exploits recent advances in software, falling hardware prices, and modern attitudes towards technology. Its new and advanced elements bring major changes in the delivery of products, goods, and services; and the social, economic, and political impact of those changes. Quality of service (QoS) is the description or measurement of the overall performance of a service, such as a telephony or computer network or a cloud computing service, particularly the performance seen by the users of the network. To quantitatively measure quality of service, several related aspects of the network service are often considered, such as packet loss, bit rate, throughput, transmission delay, availability, jitter, etc. These interesting facts and figures are published in the following articles.

Eight articles present works developed on these topics:

- IoT based real time energy monitoring system using Raspberry Pi
- An IoT patient monitoring based on fog computing and data mining: Cardiac arrhythmia usecase
- An Analysis on Quality of Service (QoS) Based Routing In Internet of Things (IoT)
- On Networking and Computing Environments Integration: A Novel Mobile Cloud Resources Provisioning Approach
- Optimization of Vertical Handoff Decision Algorithm for Wireless Networks

A Novel Fraud Detection Scheme for Credit Card Usage Employing Random Forest Algorithm Combined with Feedback Mechanism

As electronic commerce has gained wide spread popularity payments made for the transactions performed by users through credit card also gained an equal amount of reputation. A collection of classifiers are then trained based on all behavioural patterns. The trained collection of classifiers is then used to detect the online fraudulent activities occurred and if an emerging transaction is found to be fraudulent, a feedback is taken which resolves the quandary caused by the drift in the notion. In future works more number of constraints can be added to the algorithm for better results and accuracy.

ML Based Social Media Data Emotion Analyzer and Sentiment Classifier with Enriched Preprocessor

Sentiment Analysis or opinion mining is the method of NLP to computationally identify and categorize user opinions expressed in textual data. Mainly it is used to determine the user's opinions, emotions, appraisals or judgments towards a specific event, topic, product, etc. is positive, negative, or neutral. In this approach, a huge amount of digital data generated online from blogs and social media websites are gathered and analyzed to discover the insights and help in taking business decisions.

Social media is web based applications that are designed and developed to allow people to share digital content in real time quickly and efficiently. Many people define social media as apps on their Smartphone or tablet, but the truth is, this communication tool started with computers. It became an essential and inseparable part of human life. Most of business uses social media to market products, promote brands, and connect to current customers and foster new business.

Quality of Services Parameters for Architectural Patterns of IoT

Internet of things has become an interesting area of research in the last few years due to its ability to make human life simple and easier. Quality of Services (QoS) has gained a lot of importance due to the increasing popularity of the technology. QoS metrics help the IoT users to understand and express their requirements for the selection of services provided by IoT. Researchers in this field have come up with different types of architectures to provide a better view and define all the functions of the technology.

Hybrid Algorithm for efficient node and path in Opportunistic IoT Network

Internet of things has become an interesting area of research in the last few years due to its ability to make human life simple and easier. Increase in opportunistic utilization is fostered by IoT applications with a goal to find communication opportunity whenever possible in order to route and deliver data efficiently. Further to this solution the algorithm can be made more efficient by minimizing nodes selection time which has negative impact on overall message time in the buffer and also it could be made more efficient by considering energy conserving solution while routing of data towards the destination.

An Archive-based Steady-State Fuzzy Differential Evolutionary algorithm for Data Clustering (ASFDEaDC)

The proposed algorithm introduces a new form of strategy which attempts to benefit the feasible search domain of the algorithm by minimizing the analysis and exploration of less beneficial search scope. This clustering method yields a group of trade-off solutions on the ultimate optimal pare to front. Eventually, these solutions are united and maintained in an archive for further evaluation. . The challenge of fuzzy clustering has turned out to be a stochastic optimization tool of a cluster validity measure.

Comparative Analysis on Hybrid Content & Context based image Retrieval System

Learning effective segment depictions and resemblance measures are fundamental to the recuperation execution of a substance based picture recuperation (CBIR) structure. Regardless of wide research tries for a significant long time, it stays one of the most testing open gives that broadly impedes the achievements of real-world CBIR structures Specifically, we explore a structure of significant learning with application to CBIR assignments with a wide game plan of definite examinations by investigating front line significant learning methodologies for CBIR endeavours under moved settings.

Design of A Fuzzy-controlled Energy Efficient Multicast Scheduler (FEMS) For Scalable Wireless Sensor Networks

The article proposes an energy efficient scheduler exclusively for multicast operation in SDWSN environment. Based on the advantages provided by underlying network architecture, a router can efficiently schedule multicast packets belonging to various multicast sessions. This promotes greenery in the network and significantly increases packet delivery ratio.

The Role of E-Word of Mouth in the Relationship between Online Destination Image, E-satisfaction, E-Trust & E-Service Quality for International Tourists Perception

It is important to perceive the picture that vacationers have at the top of the priority list about a specific destination; this is in other to recognize its qualities and shortcomings and to too put

it efficiently in the commercial centre. Subsequently, DI is one of the most researched areas in travel industry research.

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