

## Editorial Preface

# Special Issue of Current Desires on Ambient Intelligence Enabled Internet of Things and Web of Things Interface Over the Cloud

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The constant changing landscape of current practices in ambient intelligence regarding the Internet of Things and Web of Things over cloud creates a need for knowledge resources that will empower professionals, academic educators, researchers, and industry consultants all over the world. Current desires for ambient intelligence enabled internet of things and web of things interface over the Cloud is a vital reference source that will meet needs by exploring the latest coverage on all aspects of ambient intelligence, the Internet of Things and the Web of Things from different fields, covering topics such as cloud computing, distributed computing and grid and high performance computing.

This reference source is organized into 6 articles contributed by global experts, drawing on their experiences, observations, and research surrounding ambient intelligence, the Internet of Things and the Web of Things. A brief description of each of the article can be found in the following paragraphs.

In article 1, the authors provide an in-depth analysis of the security and privacy risks that social networking systems overlook with their services. With this information, the authors propose an approach to keep the information and privacy of people who use social networking sites secure across cloud based websites. This approach is represented with graphs that compile social networking sites with the knowledge that a user's sensitive information can be shared with other users. The attribute based encryption (ABE) is used to share data and the authors use this to re-encrypt sensitive information without having to use proxy re-encryption techniques and with the results of this experiment, the authors find that using ABE to re-encrypt data provides a better outcome than the techniques that are currently being used by social networking sites.

In article 2, the authors suggest that Internet of Things based sensors are capable of preventing the injuries and even deaths of construction workers. These sensors could monitor the behaviors of the workers when they are in areas or zones that are programmed as dangerous. Site managers and supervisors will be in charge of letting the workers know when they are in danger should the sensors read it as such. The authors not only propose of a way to help construction site workers, but they also write of how this information can be subject to attacks. This research calls one of these attacks "black hole attacks." Authors address this problem and propose a solution called "Collaborative Black Hole Attack – Ad Hoc On-Demand Distance Vector routing protocol (CBHA-AHODV)." This routing protocol was used for the experiments in this research and was found to prevent collaborative black hole attacks by 87.72%.

In article 3, the authors conduct research on cloud computing in Information Technology (IT). They write about the Cloud Service Provider (CSP) and how it provides all the functionalities to users and customers in the terms of services. Currently, the cloud computing performance is levelled



by the Quality of Services (QoS) at the time that cloud computing is being used. Authors dive into the Service Level Agreement (SLA) models in hopes that there can be communication between the SLA and the CSP regarding a long-time duration period. With the use of Fuzzy Logic, authors try to solve this issue.

In article 4, the authors recognize that breast cancer is one of the main health issues that women deal with. Paired with the research of this paper, the authors search for a methodology to detect malignant tumors. They compile the methodology by using Gabor and Law's feature extraction, feature reduction by ant lion and a classification step using SVM classifier. The SVM classification is implemented on the live dataset that was prepared by Rajindra Hospital Patiala along with MIAS and DDSM datasets.

In article 5, the authors research the current schemes that exist to take advantage of the remaining energy of a wireless node by estimating the remaining energy the node has based on the current consumption and voltage. These schemes, however, lead to erroneous estimations of the energy of the node and can result in the early power exhaustion of the nodes. The energy life of the nodes is conditional and the authors use an experimental approach to determine the actual capacity of ad-hoc node under varying temperature.

In article 6, the authors dive into the concerns with cloud storage. They list the concerns as data recovery and the cost of storage. The authors main focus for this paper is data recovery in the case of a disaster in a multi-cloud environment. A preventative approach is explained in this paper regarding data backup and recovery. They aim to minimize the number of replicas and high reliability during a disaster.

The comprehensive coverage this publication offers is sure to contribute to an enhanced understanding of all topics, research, and discoveries pertaining to current practices in Ambient Intelligence regarding the Internet of Things and Web of Things over the cloud. Furthermore, the contributions included in this publication will be instrumental in the expansion of knowledge offerings in this field. This publication will inspire its readers to further contribute to the current discoveries in this immense field, creating possibilities for further research and discovery into the future of innovation.

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