Foreword and Editorial

International Journal of Future Generation Communication and Networking

We are very happy to publish this issue of an International Journal of Future Generation Communication and Networking by Science and Engineering Research Support soCiety.

This issue contains 18 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

The paper “An Improved Method of Demodulation for Air-Ground Data Link Communication System” introduced the Aircraft Communications Addressing and Report System (ACARS). The mapping relationship of code-element and waveform is analyzed. We presented a new demodulation method for the signal of ACARS base on the characteristic. This method demodulates the signal by accumulating the second half of sampling points of every code-element waveform.

In the paper “Optimization of LEACH Protocol and Environmental Monitor System Design based on WSN”, proposed a revised cluster election method named LEACH-PSOv to strengthen the hierarchical routing protocol low energy adaptive clustering hierarchy (LEACH). In the algorithm, particle colony optimization has been used to divide the network into more than one sub clusters and in each sub clusters head node and vice-head node would be elected to transfer the information to sink node. The algorithm proposed can be effectively to extend the lifetime of the networks.

The paper “Fault Tolerant Clustering Protocol for Data Delivery in Wireless Sensor Networks” propose an idea of fault tolerant optimal path determination for forwarding data to the base station to enhance the network lifetime and implement fault tolerance at the same time.

In the paper “A Collaborative Filtering Recommendation Algorithm Improved by Trustworthiness”, proposed a Collaborative Filtering recommendation algorithm Improved by Trustworthiness (CF-IT). Specifically, by adding a trust model to quantify the trustworthiness of users, we employ a two-step neighbors selection process, and accordingly nearest neighbors with similar interests and reliable as well are chose as the evidence to predict the rating for target user on given item: (1) the first step is to filter candidates with similar interests; and (2) the second step is to identify the most trustworthy neighbor within similar neighbors.

Paper “The Design of Wireless Sensor Network Gateway based on ZigBee and GPRS” proposes a design of wireless sensor network gateways based on ARM to solve the poor performance of the network, and low efficiency of communication, which is caused by the poor computing capacity and limited bandwidth in wireless sensor network (WSN). The paper introduces the composition and characteristics of the gateways, and the design of their hardware and software. In this design, the data is transmitted by the network nodes to the
gateways with the help of ZigBee near field communication (NFC) technology after its collection, and then the gateways transmit the data to the monitoring center through GPRS.

In the paper “Analysis and Simulation of Fractal Antenna for Mobile Wimax”, presents the design of Sierpinski carpet fractal antenna for three iterations. This antenna is designed using HFSS software on FR4 substrate having dielectric constant 4.4 and having fed 50 ohms micro-strip line and optimized to operate in multiple bands between 2 – 6 GHz.

The paper “A Weight Cluster-Based Hybrid Routing Algorithm of ZigBee Network” proposed the premature paralysis of network problem, which is caused by energy consumption imbalance of nodes in ZigBee, a weight-based clustering hybrid routing algorithm. From the viewpoint of energy, the algorithm considers the status of the node and network, selects cluster head according to the weights, and achieves energy balanced clustering of heterogeneous nodes. In the cluster, we adopt cluster-Tree routing algorithm to implement optimization of local network. And among the different clusters, we adopt the AODVjr algorithm to reduce the latency of communication between the different clusters and routing overhead by controlling the flooding direction of RREQ.

In the paper “Research on Comparative Analysis of Regional Logistics Information Platform Operation Mode Based on Cloud Computing” presents a regional logistics platform architecture based on cloud computing through systems analysis. Subsequently, a suggestion about adopting the mode of cooperative operation leading by the enterprise is provided combining the development situation of cloud computing and logistics information public platform in china on the basis of comparative analysis of three kind of operation mode.

The paper “Analysis and Assessment of STATCOM's effectiveness in improving transient stability for power system” proposed to to solve the above problems in order to suggest a olution of the appropriate shunt compensator for a reality 500KV power system.

In the paper “Evaluation of Trustworthiness based on Fuzzy Set Theory” introduces different express forms used to show trustworthiness of the entities, and then show how to translate different form into fuzzy form using fuzzy set theory, and give a evaluates of integrated data.

The paper “Research on Model of Network Information Currency Evaluation Based on Web Semantic Extraction Method” proposes a model of network information currency evaluation based on Web semantic extraction method taking Web news as object of study. The author elaborates the method, technology and main functions on every layer of the model in detail, which have been used or completed, and focus on how to extract semantic information efficiently from the contents of Web news, in order to explore a research method for network information currency evaluation.

In the paper “A Technique for Data Encryption and Decryption” proposed new encryption technique which is more faster, better immune to attacks, more complex, easy to encrypt and many more advanced security feature included. This Document displays the comparison between PSR algorithm and RSA Algorithm which are used in the encryption of plaintext into cipher text that are generally used in cryptography.

The paper “Research on Characteristics of Internet Bottleneck Delay in AS Autonomous Domain and Analysis of Evolution” the research scope is expanded to AS autonomous
domain in this paper, which is about characteristics of propagation behavior of bottleneck delay and its evolution. This paper can serve as a reference for the further research on basic characteristics and geographical distribution.

In the paper “Network Coding-Based Priority-Packet Scheduler Multipath Routing in MANET using Fuzzy Controllers” proposes a Network Coding-based Priority-packet Scheduler Multipath routing in MANET using fuzzy controllers (NC-PSM). Specifically, differentiated packet scheme with feedback preference information (FPI) is studied in detail to illustrate the implement of the new approach. Simulation shows that the approach is efficient, promising and applicable in MANETs. The performance of the NC-PSM is studied using NS2 and evaluated in terms of the packet delivery ratio, packet overhead, and average end-to-end delay when a packet is transmitted.

The paper “Wireless ad-hoc Network Routing Protocol Research” proposed for on-demand routing protocols instability and large delay jitter characteristic based on the opportunity to forward the robustness of routing protocols. Through the simulation analysis of the superiority compared with other certainty path as the routing protocol, gives the performance characteristics of its transmission in different environments.

In the paper “Mobile Adhoc Routing Scheme in Reducing Energy Consuming” puts forward a kind of on-demand routing protocol based on cross-layer power control PC - AODV. PC - AODV on-demand build several different power level routing, choose the way to the destination node with the minimum power level origin grouping, and the network layer of the data packet, routing messages and MAC layer control frame transmission using different power control strategy to reduce energy consumption.

In the paper “Based on the Part of Routing Information Congestion Modeling Research with the Large-Scale Network”, established a model to capture the cascading failures. The relationship between the local routing congestion information mean dynamics. In this model, according to new congestion function defined by each node (dynamic weight) is put forward based on the local congestion information, routing policy with adjustable parameters. On the BA scale-free network and ER random discusses caused by deliberate attacks on the network of cascading failure behavior.

The paper “For Deformation Web Attacks based on Feature Recognition IPS Intrusion Prevention Technology Research” analyzes the characteristics of various types of Web application system security vulnerabilities. Based on the deformation of Web attack, according to the principle of Web application vulnerabilities occur, attack methods and targets, the attack characteristics is extended, Proposed a structural model of IPS intrusion prevention based on the feature recognition.
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Editor of the April Issue on
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