# Foreword and Editorial

## International Journal of Multimedia and Ubiquitous Engineering

We are very happy to publish this issue of International Journal of Multimedia and Ubiquitous Engineering by Science and Engineering Research Support soCiety.

This issue contains 8 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 SIFT Algorithm based on Multi-scale Homomorphic Filtering" proposed a novel improved method based on multi-scale homomorphic filtering, named "multi-scale homomorphic filtering"+SIFT (MSHF+SIFT) for the poor matching performance of traditional SIFT based algorithms under uneven illumination environments,. According to the good adaptability of the difference of Gaussian based homomorphic filtering algorithm for the illumination variation, in this paper, they use this algorithm to improve SIFT algorithm.

In the paper "Melanoma Detection in Dermoscopic Images using Global and Local Feature Extraction", the global and local texture feature extraction is done using different algorithms. The global texture features for an image such as energy, entropy, homogeneity, correlation, contrast, dissimilarity, maximum probability are computed using Gray level co-occurrence matrix (GLCM). The local texture features for an image is extracted using a texture feature descriptor named Speeded Up Robust Features (SURF). The performance of feature extraction is based on the classification results. The process of classification is done using Support vector machine (SVM) and KNN classifier.

In the study "Predicting Bursty Network Traffic with Self-similarity Characteristic over Echo State Covariation Orthogonality Network", the echo state covariation orthogonality network (ESCON) is proposed in a linear unbiased estimation framework based on echo state mechanisms for network traffic prediction. The ESCON inherits the basic idea of ESN learning in an unbiased estimation framework, but replaces the commonly used least square method with a covariation orthogonality one, which can reflect the tendency of network traffic more accurately, to solve the optimal output weights. they perform a comprehensive performance evaluation, considering publicly available nonstationary H.264 video traces.

The article "Decision-making Study on Multi-objective Business Process Improvement of the Service-oriented Manufacturing System" clarifies the requirements of the service-oriented manufacturing business process and explores the basic idea with competitive strategic guidance and competitive advantage expectation. For meeting the customer requiring objectives and operational requiring objectives, they proposed the mathematical model and Logical model to measure the improvement degree of business process and the method to analyze and diagnose the key improvement points and important improvement aspects. This paper enriches and extends the theories and methods of business process improvement, and can provide method support in practice.

In the research entitled "Research on Anti-counterfeiting Technology Based on QR Code image Watermarking Algorithm", a new anti-counterfeiting scheme and a high robustness

digital watermarking algorithm based on DWT and SVD were proposed. they took a QR code as the carrier image, which is generated by the relevant information of the copyright owner, and then embedded the copyright owner's information into the QR code as a watermark. Afterwards they obtained the watermark information contained in the QR code by using watermark detection and two dimensional bar code scanning tools. In order to achieve the purpose of anti-counterfeiting, they could verify its authenticity by checking watermark information and scanning information.

In the paper "Research on the Influences of Credit Evaluation System on Network Consumption Decisions: Based on Large-scale Data of TMALL", network transaction credit evaluation system offer credit basis for online trading, credit information of the products is open to public, in order to solve the problems of the mistrust in e-commerce activities, in some degree, to reduce the e-commerce transaction cost. At the same time, the network credit evaluation system also profoundly affect whether consumers choose online shopping. This paper established econometric model which based on large-scale data of TMALL to analyze the relationship between credit rating system and the commodity sales.

The paper "A New Type-2 Fuzzy Algorithm for Unmanned Aerial Vehicle Image Segmentation" proposes a new type-2 fuzzy algorithm for the Unmanned Aerial Vehicle (UAV) image segmentation. In this algorithm, a logarithmic function is applied to transforming the membership of each pixel which is derived from the Fuzzy C-Means (FCM) algorithm; In other words, this logarithmic function defines a new membership function which can update the cluster centers effectively. The proposed method is called the Logarithmic Functional Fuzzy C-Means Algorithm (LF-FCM) used for the UAV image segmentation.

In the study "Heterogeneous Cloud Storage Based Platform of Chinese Traditional Folk Art Resources", in an attempt to preserve and protect Chinese traditional folk art resources, it is an important and necessary task to digitize and store such information. However, because there are many types of folk art data information and the way to use these data is completely different, it is not suitable to use traditional relational database as a single storage solution. In addition, as the amount of data grows exponentially, such storage solution will also lead to performance and availability issues. In this paper, they propose a novel folk art resource data storage solution which consists of two parts, i.e. the underlying storage structure and the front-end centralized control component.

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**Editors of the May Issue on**
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