

Guest Editorial Preface

Special Issue on Intelligent Systems and Applications

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Intelligent systems are innovative and sophisticated algorithms and devices which need to be developed and designed to analyse, understand, and provide a solution to real world problems with great accuracy. These intelligent systems are having a wide range of applications in various real-world situations in different sectors. The special issue on Intelligent Systems and Applications in IJIT focuses on theories, methods, and new application areas for analyzing data intelligently and achieving better results in selected application areas. IJIT is one of the leading journals which publishes original research promoting the development of intelligent systems, devices, and applications. This special issue follows IJIT practices to promote advanced methods and technologies for developing smart applications for different sectors.

The special issue received 18 submissions covering research interests in the field of developing and applying novel algorithms using advanced technologies. After rigorous reviews by the panel of experts, 5 manuscripts were selected for publication in the special issue. The research work presented in these papers addresses challenging problems using advanced machine learning and deep learning techniques.

The topics and main contributions of this special issue are briefly summarized below.

Sadana and Jaiswal's "Early Detection of Alzheimer's Disease Using Bottleneck Transformers" addresses the issue of Alzheimer's Disease, and proposes a novel approach through an ensemble of Bottleneck Transformers with a sharpness-aware minimizer for detecting Alzheimer's Disease and its prodromal state, Mild Cognitive Impairment, at an early stage from T1-weighted brain MRI scans. The authors test their proposed approach on the widely accepted ADNI dataset and the advocated methodology showed an improvement in the accuracies from previous attempts at the problem of early detection of the disease.

Jabir and Falih's "A New Hybrid Model of Deep Learning ResNeXt-SVM for Weed Detection: A Case Study" explored the various deep learning methods for solving the classification and detection of weed in the agriculture sector and proposed a novel framework ResNeXT-SVM for the automatic classification of weed, and provided its application in the agriculture sector.

In Singh and Kumar's "Improving Hamming-Distance Computation for Adaptive Similarity Search Approach," a novel counting-based similarity search strategy is proposed to counter the existing similarity-based search methods. The proposed strategy adapts to the lesser number of set dimensions of the user query and subsequently conducts hamming-space computations with each data object at an optimized level.

Yadav, Dugar, and Baishya's "Decoding Customer Opinion for Products or Brands Using Social Media Analytics: A Case Study on Indian Brand Patanjali" is an interesting study presented by authors to analyze the customer's preferences and opinions about the products of an Indian Brand "Patanjali". Various machine learning algorithms have been tested for analyzing the customer's sentiments related to a particular product and brand. Authors also address the limitations of scarcity of opinion tagged data, required to train supervised classifiers to perform sentiment analysis by developing tagged corpora.

Sehgal, Ahuja, and Bindu's "A Novel Approach for Band Selection Using Virtual Dimensionality Estimate and Principal Component Analysis for Satellite Image Classification" discussed the problem of classification of satellite images, and presented an improved and efficient method using the combination of PCA, wavelet, and k- means algorithm to achieve better classification accuracy along with less execution time.

This special issue is a product of innovations involved in the development of intelligent methods with the contribution of various authors around the globe. We hope, the special issue will provide meaningful insight to readers.

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