Editorial Preface

Special Issue On: Innovations in Sensor, Cloud and Wireless Technologies

Dr. Anuj Kumar Gupta, CGC College of Engineering, Mohali, Punjab, India

The rapid expansion of network technologies, IoT, cloud computing, and big data promote unprecedented advances in signal processing and information systems. Such advances support the development of sensing technologies, as well as software-defined networks. The purpose of this special issue was to solicit manuscripts on the emerging trends, issues, and challenges in sensor, cloud and wireless technologies. The purpose of this special issue is to bring together researchers, practitioners, and decision-makers from academia, industry, the non-profit sectors, and the government, who have expertise in the field of network computing and systems in order to share their knowledge.

This special issue covers seven articles related to the theme of the issue.

The article "A Performance Study of Moving Particle Semi-Implicit Method for In-compressible Fluid Flow on GPU" by Kirankumar V Kataraki and Satyadhyan Chickerur proposes a numerical model of MPS using the governing equations notably the Navier-Stokes equation. The simulation model indicates that using GPU based MPS produce better performance compared to the traditional arrangement of using CPUs.

The article "A Distributed Intrusion Detection Scheme for Cloud Computing" by Nurudeen Mahmud Ibrahim and Anazida Zainal proposes a distributed IDS that uses Binary Segmentation change point detection algorithm to address the appropriate period to send attack information among nodes in distributed IDS and using parallel Stochastic Gradient Descent with Support Vector Machine (SGD-SVM) to achieve the distributed detection.

The paper "An Effective Regression Test Case Selection using Hybrid Whale Optimization Algorithm" by Arun Prakash Agrawal, Ankur Choudhary and Arvinder Kaur propose an almost safe regression test case selection approach using Hybrid Whale Optimization Algorithm and empirically evaluated the same on subject programs retrieved from Software Artifact Infrastructure Repository with Bat Search and ACO based regression test case selection approaches.

The article "Effect of Information Architecture on the Usability of a University Website" by Bhim Sain Singla and Himanshu Aggarwal aims at analyzing and comparing the effectiveness of information architectural designs of some randomly selected university websites of Punjab (India) through usability testing technique. For this purpose, the performance metric measured was the information seeking time. The usability session of each subject was captured through Camtasia Studio software. The findings of this study highlight the shortcomings of presently designed academic websites which adversely affect the usability of a website.

The article "Model-based Application Deployment on Cloud Computing" by Aouat Asmaa, Deba El Abbassia, Benyamina Abou El Hassan and Benhamamouch Djilali propose a deployment method and implement it to automate the process of deploying applications in a cloud environment based on model-driven engineering, to configure and provision applications to be deployed in the cloud.

The article "A Congestion Controlled and Load Balanced Selection Strategy for Networks on Chip" by Ashima Arora and Neeraj Kumar Shukla proposed an added advantage of effectively utilizing the links and thus regulates the traffic flow by keeping track of buffer usage and flits flow history simultaneously. The experimental results obtained under different traffic conditions, shows the

proposed scheme outperforms other traditional, fuzzy based schemes in terms of both performance and power requirements.

The article "Novel Class Detection with Concept Drift in Data Stream – AhtNODE" by Jay Gandhi and Vaibhav Gandhi intends to apply the Adaptive Hoeffding Tree as a classification model that is also used to handle the concept drift situation. Previous approaches used the ensemble model to handle concept drift. In AHT, classification is done in the single pass. The experiment results prove the effectiveness of AhtNODE compared to existing ensemble classifier in terms of classification accuracy, speed and use of memory.

In conclusion, the article presented in this special issue demonstrates fruitful research in the field of sensor, cloud and wireless technologies. We wish to thank both the authors and the reviewers for their hard work in helping us assemble this Special Issue, and also would also like to express our sincere gratitude to the Editor-in-Chief, Prof. Nik Bessis, for providing this opportunity and lots of guidance throughout the process.

Dr. Anuj Kumar Gupta
Managing Guest Editor
IJDST