Editors' Introduction to the Special Issue on "Information and Communication Technology"

Since 2010, Symposium on Information and Communication Technology-SoICT has been organised annually. The symposium provides an academic forum for researchers to share their latest research findings and to identify future challenges in computer science. The best papers from SoICT 2015 have been extended and published in the Special issue "SoICT 2015" of Informatica Journal, Vol.40, No.2 (2016). In 2016, SoICT was held in Hochiminh city, Vietnam, during December 8-9th. The symposium covered four major areas of research including Artificial Intelligence and Big Data, Information Networks and Communication Systems, Human-Computer Interaction, Software Engineering and Applied Computing.

In 130 submissions from 20 countries, 58 papers were accepted for presentation at SoICT'2016. Among them, 6 papers were carefully selected, after further extension and additional reviews, for inclusion in this special issue.

Paper "Improvement of Person Tracking Accuracy in Camera Network by Fusing WiFi and Visual Information" by Thi Thanh Thuy Pham, Thi-Lan Le and Trung-Kien Dao addresses the problem of person tracking in camera network. The authors assign the trajectory by person identity (ID) determined at each video frame. In order to improve the accuracy of vision-based person tracking, authors propose a fusion scheme of WiFi and visual signals for person tracking. The fusion method allows tracking by identification in non-overlapping cameras, with clear identity information taken from WiFi adapter.

Paper "Persons-In-Places: A Deep Features Based Approach For Searching A Specific Person In A Specific Location" by Vinh-Tiep Nguyen, Thanh Duc Ngo, Minh-Triet Tran, Duy-Dinh Le and Duc Anh Duong considers the problem of video retrieval with complex queries which simultaneously covers person and location information. Authors introduce a framework to leverage Bag-Of-Visual-Words (BOW) model and deep features for person-place video retrieval.

Research in the paper "Another Look at Radial Visualization for Class-preserving Multivariate Data Visualization" was conducted by Van Long Tran. Radial visualization is one of common information visualization concepts for visualizing multivariate data. However, radial visualization may display different information about structures of multivariate data. For example, all points that are multiplicatives of given points may map to the same point in the visual space. An optimal layout of radial visualization is usually found by defining a suitable order of data dimensions on the unit circle. In this paper, author proposes a novel method that improves the radial visualization layout for cluster preservation of multivariate data.

Paper "Key-Value-Links: A New Data Model for Developing Efficient RDMA-Based In-Memory Stores" by Hai Duc Nguyen, The De Vu, Duc Hieu Nguyen, Minh Duc Le, Tien Hai Ho and Tran Vu Pham proposes a new data model, named Key-Value-Links (KVL), to improve in-memory store using RDMA. The KVL data model is essentially a key-value model with several extensions. The model named KELI. The results of experiments on real-life workload indicate that KELI, without being applied much optimization, easily outperform Memcached, a popular in-memory key-value store, in many cases.

Paper "Defense Strategies against Byzantine Attacks in a Consensus-Based Network Intrusion Detection System" by Michel Toulouse, Hai Le, Cao Vien Phung and Denis Hock is interested in a security problem. Although the purpose of Network Intrusion Detection System (NIDS) is to monitor network traffic such as to detect malicious usages of network facilities, NIDS can itself be attacked. The paper investigates such vulnerabilities in a recent consensus-based NIDS proposal. It is known that consensus algorithms are not resilient to compromised nodes sharing falsified information, i.e. they can be the targets of Byzantine attacks. The paper proposes two different strategies aiming at identifying compromised NIDS modules sharing falsified information. Also, a simple approach is proposed to isolate compromised modules, returning the NIDS into a non-compromised state. Validations of the defense strategies are provided through several simulations of Distributed Denial of Service attacks using the NSL-KDD data set.

Paper "Emotional contagion model for group evacuation simulation" by Xuan Hien Ta, Benoit Gaudou, Dominique Longin and Tuong Vinh Ho focuses on fear-related emotions and their positive impact on the survival capabilities of human beings in case of crisis situations. Authors proposed a new model of emotional contagion based on some main findings in social psychology. This model was formalized mathematically, implemented and tested in the GAMA agent-based simulation platform in the context of evacuation simulation. Authors assessed experimentally the impact of three factors (emotion decay, environment, neighbors' emotional contagion) on emotion dynamics at individual and group levels.

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