Guest Editorial:
Special Issue from ISCA Fall-2015 Conferences

This Special Issue of IJCA is a collection of five refereed papers selected from the following ISCA conferences (co-located at the Hilton San Diego, Harbor Island, San Diego, California, USA, October 12-14, 2015):

- CAINE 2015: 28th International Conference on Computer Applications in Industry and Engineering
- SEDE 2015: 24th International Conference on Software Engineering and Data Engineering

Each paper submitted to the conferences was reviewed by at least two members of the International Program Committee, as well as by additional reviewers, judging the originality, technical contribution, significance and quality of presentation. After the conferences, nine best papers were recommended by the Program Committee members to be considered for publication in this Special Issue of IJCA. The authors were invited to submit a revised version of their papers. After extensive revisions and a second round of review, seven papers were accepted for publication in this issue of the journal.

The papers in this special issue cover a wide range of research interests in the community of computers and applications. The topics and main contributions of the papers are briefly summarized below.

Maximilian M. Etschmaier and Gordon Lee of San Diego State University have a paper entitled "Defining the Paradigm of a Highly Automated System That Protects Against Human Failures and Terrorist Acts, And Application to Aircraft Systems." In it they present a paradigm and use a case study to show its effectiveness, as well as discuss several recent crashes.

Michio Yokoyama, Takumi Negishi, Mitsuru Mizunuma, all of Yamagata University in Japan and Kazuya Otani, Hidenobu Hanaki, and Kozo Nishimura, of TOKAI RIKA Co., Ltd, Japan have a paper entitled "Multiple Regression Analysis and Learning System for Estimation of Blood Pressure Variation Using Photo-Plethysmograph Signals." In this paper they propose a blood pressure estimation system using photo-plethysmograph signals. Their experiments show the estimates are within 10 mmHg when compared with measures from a traditional cuff.

Mehdi Assefi, Guangchi Liu, Mike P. Wittie, and Clemente Izurieta from Montana State University have a paper entitled "Measuring the Impact of Network Performance on Cloud-Based Speech Recognition: An Empirical Study of Apple Siri and Google Speech Recognition." They measured transcription delay and accuracy with varying packet loss and presented their results which are statistically significant.

Shadi Banitaan, Kevin Daimi, Mohammed Akour, and Yujun Wang have a paper entitled "Test Suite Selection in JUnit Testing Environment based on Software Metrics." The authors are from the University of Detroit, USA and Yarmouk University, Jordan. In this paper they focus on programs written in Java and tested with Junit. Their results show that you can significantly reduce the number of test cases needed to detect most of the errors.

Ajay K. Deo, Zadia Codabux, Kazizakia Sultana, Byron J. Williams from Mississippi State University, USA have a paper entitled "Assessing Software Defects Using Nano-Patterns Detection." They presented a study that that evaluated software defects using nano-patterns. They studied three open source systems from Apache and found that certain nano-patterns are more defect prone than others.

Songqing Yue of the University of Central Missouri, and Jeff Gray of the University of Alabama, USA have a paper entitled "Transforming C Applications with Meta-programming." In this paper they describe how to bring computational reflection to the C programming language through a Meta Object Protocol. They present a Domain-Specific Language called SPOT to allow developers to specify direct manipulation of C Programs.

William Flageol, Mourad Badri and Linda Badri of the University of Quebec, Trois-Rivières, Quebec, Canada have a paper entitled "Investigating the Relationships between Use Cases Attributes and Source Code Size." In this paper they present a study that investigates the relationship between use case attributes and source code size. An

empirical study of several open source Java projects is presented and the results provide evidence that support their hypothesis.

As guest editors we would like to express our genuine appreciation for the encouragement and support from the ISCA. We also owe many thanks to the authors and program committees of the conferences from which these papers were selected.

We hope you enjoy this special issue of the IJCA and we look forward to seeing you at a future ISCA conference. More information about the ISCA society can be found at http://www.isca-hq.org.

Guest Editors:

Gongzhu Hu, Central Michigan University, USA, CAINE 2015 Conference Chair
Takaaki Goto, Ryutsu Keizai University, Japan, CAINE 2015 Program Chair
Frederick C Harris, Jr., University of Nevada, Reno, USA, SEDE 2015 Conference Chair
Yan Shi, University of Wisconsin-Platteville, USA, SEDE 2015 Program Co-Chair
Dr. Wenying Feng, Trent University, CANADA, SEDE 2015 Program Co-Chair

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