
Editorial

Takumi Ichimura*

Faculty of Management and Information Systems,
Prefectural University of Hiroshima,
1-71, Ujina-higashi, Minami-ku,
Hiroshima, 734-8558, Japan
E-mail: ichimura@pu-hiroshima.ac.jp
*Corresponding author

Kosuke Kato

Faculty of Applied Information Science,
Hiroshima Institute of Technology,
2-1-1 Miyake, Saeki-ku,
Hiroshima 731-5193, Japan
E-mail: k.katoh.me@it-hiroshima.ac.jp

Akira Hara

Graduate School of Information Sciences,
Hiroshima City University,
3-4-1, Ozuka-higashi, Asaminami-ku,
Hiroshima 731-3194, Japan
Fax: +81-82-830-1554
E-mail: ahara@hiroshima-cu.ac.jp

Biographical notes: Takumi Ichimura is an Associate Professor with Department of Management and Information Systems, Prefectural University of Hiroshima. He received his ME and DE in Engineering at Toin University of Yokohama in 1994 and 1997, respectively. His current research interests include neural networks, evolutionary computation, artificial immune system, and their applications in medical informatics, and cognitive sciences. His habitual life work is developing system in Linux and Android mobile phone. He has been agreed to serve on the chair of IEEE SMC Hiroshima Chapter since 2011.

Kosuke Kato received his BE and ME in Biophysical Engineering from Osaka University in 1991 and 1993, respectively. He received his DE from Kyoto University in 1999. He is currently an Associate Professor in Faculty of Applied Information Science, Hiroshima Institute of Technology. His current research field includes interactive fuzzy/stochastic multiobjective/multicriteria programming, evolutionary computation, swarm intelligence and so forth. He has been agreed to serve on the vice chair of IEEE SMC Hiroshima Chapter since 2011.

Akira Hara received his BEng, MEng, and PhD in Engineering from Tokyo Institute of Technology, Tokyo, Japan in 1997, 1999, and 2002, respectively. He is currently an Associate Professor in the Department of Intelligent Systems, Graduate School of Information Sciences, Hiroshima City University, Hiroshima, Japan. His areas of interest are evolutionary computation and swarm intelligence. He has been agreed to serve on the secretary of IEEE SMC Hiroshima Chapter since 2011.

The purpose of this special issue is to collect excellent articles on new challenges in softcomputing methodologies and its applications for web intelligence. The papers in this issue are extended versions of selected papers presented at some conferences sponsored by the IEEE SMC Hiroshima Chapter and special session in IEEE system, man, and cybernetics (SMC). Our chapter aims to bring people from academia, research laboratories and industry and to offer a collaborative platform to address the emerging issues of the softcomputing methodologies and its applications and to encourage interactions across the borders of related disciplines.

High quality technical papers were presented at those conferences by the authors, from which the following five papers were carefully selected by the programme committee for this special issue.

- 1 ‘Parallel processing for stepwise generalisation method on multi-core PC cluster’ by S. Yagi, K. Tamura and H. Kitakami.

An approximate pattern matching in sequence databases to be called approximate query is one of the most important techniques for the web intelligence. In order to execute the approximate query, the stepwise generalisation methods extracting a minimum generalised set. This paper proposes a novel parallelisation model with a hierarchical task pool for the parallel processing. This paper reports the experimental results for real protein sequences.

- 2 ‘Knowledge discovery of tourist subjective data in smartphone-based participatory sensing system by interactive growing hierarchical SOM and C4.5’ by T. Ichimura, T. Ichimura, S. Kamada and K. Kato.

A smartphone-based tourist participatory sensing system has been developed in Android smartphone in this paper. The system can collect tourist subjective data which includes jpeg files with GPS, geographic location name, the evaluation, and comments written in natural language at sightseeing spot. The paper describes the extracting method of the information for new sightseeing spots by interactive growing hierarchical SOM and C4.5.

- 3 ‘Machi-POS – point of sales system for restaurant district’ by S. Matsumoto, T. Kashima, T. Matsui, K. Nakamura and T. Matsutomi.

This paper describes about the research project to develop a totally service to improve not only hospitality but also management facilities in the small restaurants by using data mining or simulation techniques. Moreover, the methods can support safety and security of foods by using cloud technology. The proposed method can give an advantage to the relationship of cooperating with each other in the local area. Revitalisation and activation of regional economies in Japan was one of important challenges since the Great East Japan Earthquake.

- 4 ‘Assignment strategy selection for multi-car elevator group control using reinforcement learning’ by T. Uraji and K. Takahashi.

Recently, Japan needs to save electricity, because nuclear power plants have been stopped since the nuclear accident at the Fukushima. This paper described the reinforcement learning to save the power of elevator control.

- 5 ‘Knowledge acquisition from many-attribute data by genetic programming with clustered terminal symbols’ by A. Hara, H. Tanaka, T. Ichimura and T. Takahama.

Knowledge extracting method from the websites can be useful for web business. Rule extraction by genetic programming in softcomputing methods is improved in terms of the search performance in order to challenge the large scale set.

Each paper presents an ambitious but realistic challenge, based on the authors’ own expertise. We do hope that the journal audience will enjoy reading this special issue.

As a concluding note, we would like to thank the authors for providing excellent papers and timely extended revisions. Thanks are due to all the reviewers, who help us to shape this special issue. Finally, we gratefully acknowledge the support of Professor Lakhmi C. Jain and Professor Toyohide Watanabe, the Honorary Editor and Editor-in-Chief of this journal, respectively, for giving us the opportunity to compile this special issue.