

---

## Editorial

---

### Seungmin Rho\*

Department of Media Software,  
Sungkyul University,  
Anyang-si, Gyeonggi-Do, 14097 South Korea  
Email: smrho@sungkyul.edu  
Email: korea.smrho@gmail.com  
\*Corresponding author

### Daehoon Kim

School of Electrical Engineering,  
Korea University,  
Seoul, 02857, South Korea  
Email: kdh812@korea.ac.kr

**Biographical notes:** Seungmin Rho received his PhD in Computer Science from the Ajou University, Korea in 2008. In 2008–2009, he was a Postdoctoral Research Fellow at the Computer Music Lab of the School of Computer Science in Carnegie Mellon University. He is currently a Faculty of the Department of Media Software at Sungkyul University. His current research interests include database, big data analysis, music retrieval, multimedia systems, machine learning, knowledge management as well as computational intelligence.

Daehoon Kim received his BE in Electrical Engineering from the Korea University, Seoul, Korea in 2006. He also received his MS and PhD in Electrical Engineering from the Korea University, Seoul, Korea in 2008 and 2013. In 2013–2015, he was a Research Professor at the Research Institute for Information and Communication Technology in Korea University. He founded Tapyn, Inc. which is a tech startup company located in San Francisco Bay Area, and has been working for that company as a CTO since 2015. His current research interests include big data analysis, deep learning, multimedia information retrieval, image processing, and internet of things.

---

## 1 Introduction

Recently, Web 2.0 technologies such as blog, SNS, Wikipedia, and Youtube have emerged as possible channels for exploitation by business and education. They are involved in the information production and distribution processes as well as the consumption process. Also, social network research in sociology and psychology has shown an interest in modelling and analysing the relationship between users and their communities. As well as providing ways to stay in touch with friends and make online transactions and new interactions in cyber environments, research areas are focused on sharing, collaboration and interoperability of web documents and social media.

This special issue brings various next generation social computing tools to construct, integrate, analyse, mine, annotate and visualise the social data from various transactions and interactions in engineering, business management and education. The topics of papers submitted in this SI included the following topics:

- Web 2.0 and Web 3.0
- e-learning and social media
- social computing and social networks
- social network services in business/education
- new computational models for social networks
- social media in business/education
- collaboration and KM using Web 2.0
- semantic web applications and developments
- the role of the educator in social networks
- adaptation of learning theories for social networks
- social network analysis in courses and learning environments
- mobile devices in social learning
- personal learning environments and networks
- the value of openness in learning
- next-generation social technologies
- scholarship and peer review in online social networks
- privacy and security issues for social networks.

## **2 The papers in this special issue**

We have selected 12 manuscripts for this special issue after the two rounds of reviews. Each selected manuscript was blindly reviewed by at least two reviewers consisting of guest editors and external reviewers.

The first paper entitled ‘Immersive element analysis of the multiplayer online battle arena game genre’, by Gilsang Yoo et al. propose the developmental direction about interested elements of the MOBA game genre. This study result can be used for contents satisfaction of MOBA game genre and flow evaluation system.

The second paper entitled ‘Texture analysis based feature extraction using Gabor filter and SVD for reliable fault diagnosis of an induction motor’, by Rashedul Islam et al. propose the multiple induction motor faults with different noisy conditions are used to validate the fault diagnosis methodology.

The third paper entitled ‘An introduction to face-recognition methods and its implementation in software applications’ by Byoung-Moo Kwon and Kang-Hee Lee introduce several significant principles of current face-detecting methods such as active

shape model (ASM), active appearance model (AAM) and constrained local models (CLM) in a comprehensive manner and to provide some insight on closely related topics such as principal component analysis and eigenfaces.

The fourth paper entitled 'Shadow detection using chromaticity and entropy in colour image' by Ki-Hong Park et al. propose a method to detect shadows from real images. Due to shadows in image have a dark pixel values, shadow candidates are defined. Shadow candidates have been estimated and detected by chromaticity of colour image and threshold image using entropy.

The fifth paper entitled 'User interface using bounce for realistic movement on smart TV' by Daehyun Ryu and Kyoungju Park suggests matched motion for the applicable interface on the screen composition of smart TV from now on, so that we expect compatible development for the future UI environment of screen.

The sixth paper entitled 'Analysis of serious games for preventing internet gaming addiction' by Ji Yun Kim and Jae Hwan Bae introduce the analytic results of serious games for preventing internet gaming addiction. In order to solve the problems caused by gaming addiction is development of a variety of serious games and related services. Internet games are played for entertainment, serious games utilise the entertainment function to further education and addition preventive measures objectives.

The seventh paper entitled 'A framework for context-aware application programming on smart phone' by Baek Gyoong Sung deals with market and timing factors potentially influencing the transaction costs of a company in its international ventures, which are used as transaction cost proxies, based on Gerpott and Jakopins paper determinants of mobile network operators choice of cross-border entry modes.

The eighth paper entitled 'A tree cognitive navigation system based on two-dimensional code and GPS' by Wenjie Hu et al. propose the theory, system framework and key technologies of the system. Subsequently, a tree cognitive system based on two-dimensional code and GPS was developed for Beijing Forestry University.

The ninth paper entitled 'Estimating the sentiment strength of a word using word similarity' by Kangbok Lee et al. propose a novel method for estimating the sentiment strength of a word using similarities between a target sentiment word and sentiment words in dictionary. To calculate the word similarity, we introduce the notions of relative similarity and adjusted similarity.

The tenth paper entitled 'Game operation query language for facilitating game server's FCAPS operation' by Hwan-Soo Yoo and Seong-Whan Kim introduce domain specific language (DSL) operation approach for usual game operators. They design GOQL DSL, focusing on fault, configuration, and performance management issues.

The 11th paper entitled 'Automatic classification of Lithuanian parliament bills' by Aušra Mackutė-Varoneckienė et al. apply natural language technologies, mainly text classification, to categorise bills of the Lithuanian parliament into the predefined groups for further use in voting analysis and in other text analytic tasks.

The last paper entitled 'The investigation of relationships: self-esteem, self-confidence, and conduct problems in counselling' by Mila Park investigates the relationship between self-esteem self-confidence, and conduct problems. It demonstrated that the correlation of self-esteem and self-confidence was not significantly related to the children and adolescents' conduct problems.