
FOREWORD

Special Section on Intelligent Information and Communication Technology and its Applications to Creative Activity Support

Welcome to the Special Section on Intelligent Information and Communication Technology and its Applications to Creative Activity Support, the IEICE Transactions on Information and Systems. Recently advances in processing units, human-computer interaction techniques, programming languages/algorithms, and computer-aided tools have made us possible to gather large-scale data from various devices and locations in real-time and complicated manner, as well as process them to generate useful knowledge or to provide innovative services. Nowadays, existing intelligent systems predict events accurately using techniques in the fields of artificial intelligence, natural language processing, image processing, deep learning, data science, and so forth. This feature enables us to apply such systems to improve creative activities in our daily life, business, medical treatment, education, and creation. Towards advances in areas of the intelligence ICT systems and creativity support systems, it is necessary to integrate various academic fields, including information science, language sciences, and knowledge science. It is also essential to enable computers to learn, construct, and assess adequate models of reality and its advanced knowledge processing with a high precision at a greater speed. This special issue, one of our series in the IEICE Transactions on Information and Systems from 2007, collects reports of high-quality research in the area of intelligent informatics, smart technology, and creative activity supported system, including knowledge engineering, knowledge science, service science, artificial intelligence, data science, virtual reality, robotics, haptics, sensor networking, mechatronics, etc.

Initially we received 23 submissions from several regions. The Editorial Committee worked out with difficulty to carefully reviewing and evaluating the submitted papers. After a thorough reviewing process, we accepted eight papers for publication in this Special Section as follows.

1. GUNGEN-Heartbeat: A Support System for High-Quality Idea Generation Using Heartbeat Variance
2. Improvement in the Effectiveness of Cutting Skill Practice for Paper-cutting Creations Based on the Steering Law
3. Software Development Effort Estimation from Unstructured Software Project Description by Sequence Models
4. Improving Seeded k-means Clustering with Deviation- and Entropy-based Term Weightings
5. Compromising Strategies for Agents in Multiple Interdependent Issues Negotiation
6. Social Behavior Analysis and Thai Mental Health Questionnaire (TMHQ) Optimization for Depression Detection System
7. Characterization of Interestingness Measures using Correlation Analysis and Association Rule Mining
8. Cognition-based Experimental Analysis to Determine the Average Minimum Time Limit for Wireless Sensor Communications

Two papers involve creativity/decision-support system, two papers are related to applications of text mining and natural language processing, one paper explores elemental technologies for negotiation, one develops techniques for social behavior analysis, and one paper tackles fundamental issues in data mining and data science. The Guest Editors would like to express their sincere appreciation to all the authors for their efforts in preparing and submitting their excellent manuscripts, and to the reviewers for their professional and voluntary work. We also appreciate the editorial board of the IEICE Transactions on Information and Systems. Without their support, this special issue would not have been possible. Finally, we would like to express our appreciation for the great efforts of the Editorial Committee Members. Their names and affiliations are listed below.

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