FOREWORD

Special Section on Knowledge-Based Software Engineering

The special interest group Knowledge-based Software Engineering (SIG-KBSE) was established by the Institute of Electronics, Information and Communication Engineers (IEICE) in 1992. SIG-KBSE provides various opportunities, including presentation sessions, the series of the international conferences called the International Joint Conference on Knowledge-based Software Engineering (JCKBSE), and the special section, for researchers and practitioners to present, discuss, and publish the most recent innovations, trends, experiences, and concerns in the interdisciplinary area of Artificial Intelligence, Knowledge Engineering and Software Engineering.

This special section is realized by the cooperation between the IEICE transactions and SIG-KBSE. The objective of the section is to publish and overview recent progress in the interdisciplinary area of Artificial Intelligence and Software Engineering. Following JCKBSE 2020, the editorial committee was organized and distributed the Call for Papers in Jan 2021. Despite the COVID-19 pandemic, twelve submissions were received in response to the Call for Papers. After extensive review processes, the editorial committee selected four papers (Acceptance rate: 33%). The rate demonstrates the strictness of the reviewing process and high quality of the accepted papers. All the accepted papers propose notable techniques on the various fields of KBSE; bad smell detection on goal models and use case descriptions, a deep coalitional Q-learning method in edge computing, and a DNN model for generating textual stories from image sequences.

On behalf of the editorial committee, I would like to express my sincere appreciation and gratitude to all the authors for their contributions. I am also grateful to the external reviewers and the following editorial committee members and additional referees for their very considerable efforts to review the submissions and their assistance in preparing for this special section.

Hiroyuki Nakagawa (Osaka University), Guest Editor-in-Chief

Hiroyuki Nakagawa (*Member*)   is currently an Associate Professor of Graduate School of Information Science and Technology, Osaka University. He received his B.S. degree in computer science from Osaka University in 1997, his M.S. degree in computer science from the University of Tokyo in 2007, and his Ph.D. degree in computer science from Waseda University in 2013. He worked in Kajima Corporation from 1997 to 2008. He worked the University of Electro-Communications as an assistant professor from 2008 to 2013. He was a chairman of SIG Knowledge Based Software Engineering of IEICE, from May 2020 to May 2022. His research interests include self-adaptive systems, multi-agent systems, requirements engineering, and software evolution.