

# PREFACE: SPECIAL ISSUE ON SOFT COMPUTING AND APPLICATIONS

An intelligent system can be broadly defined as a system that is able to accomplish feats requiring a substantial amount of intelligence when normally carried out by humans. Examples include medical diagnosis, processing of natural languages, interpretation of raw data for non-obvious information and prediction of trends, and supervision of large-scale processes. These feats need not necessarily be assessed in terms of technical specifications or complexity, but may be driven from the perspectives of cost, robustness, and amenability for mass application. Apart from sensory and final action elements, the core of an intelligent system is the control system, which is responsible for inculcating the intelligence into artificial forms to deliver the necessary actions and objectives. Intelligent control systems have been an active research area since the first automatic control system was conceived more than two thousand years ago. The advances in control theory coupled with the developments in computing and communication systems have resulted in smarter, smaller, and faster control systems, facilitating the development of intelligent systems and enabling a whole spectrum of new engineering applications – in manufacturing, precision engineering, food and pharmaceutical, biomedical, and many more. Under the realm of intelligent systems and control, new findings and inventions continue to rein in benefits in one form or another.

This special issue serves to document exciting work that fall into the areas mentioned above. The preliminary papers were selected from among the best that were presented at the tenth IEEE International Conference on Industrial and Information Systems (ICIIS 2015) held in December 2015 at the University of Peradeniya, Sri Lanka. The authors of these papers were requested to substantially revise, enhance, and update their papers and submit them to the journal. The papers were reviewed again through the review process of the journal, and the final selections were made for the special issue. The selected papers cover low cost estimator-based solution for torque control of servo motors, simplified controller implementation approach for omni-directional robots, navigation control of reconnaissance robot systems, single sample face recognition, improved indoor localization using acoustic finger printing and dynamic voltage control of a smart distribution transformer. The guest editors wish to thank all the authors for their effort and dedication in preparing these papers.

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