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## Editorial

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**Biographical notes:** Honghao Gao is a Fellow of IET, BCS, and EAI, and a senior member of IEEE, CCF, and CAAI. His research interests include software formal verification, industrial IoT/wireless networks, service collaborative computing, and intelligent medical image processing.

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Intelligent service computing is an advanced research direction of software engineering and technology management. This special issue aims to show the research about intelligent service computing in advanced technology management. We have selected six papers for this special issue. A summary of these papers is outlined below.

In the article titled ‘Network intrusion detection method based on improved ant colony algorithm combined with cluster analysis in cloud computing environment’, Xifeng Wang and Xiaoluan Zhang propose a network intrusion detection method based on improved ant colony algorithm combined with clustering analysis, aiming at the low detection accuracy of traditional clustering algorithm. They analyse feature vector and then realise the separation of legal and illegal acts of network data.

In the article titled ‘An intelligent image denoising method using weighted multi-scale CB morphological filter algorithm’, Yongjie Tan and Jie Qin propose the image denoising method using multi-scale contour bougie (CB) element morphological filter to improve the accuracy of disease recognition. They can obtain the final denoising image by selecting several structural elements to filter the image and fusing the filtered images at different scales.

In the article titled ‘An intelligent image detection method using improved canny edge detection operator’, Qian Wang, Wenxia Chen and Haiyun Peng propose a disease image detection method based on an improved Canny operator. First, they select the filtering function and window adaptively according to Gauss filtering and feature

statistical analysis. Then, they enhance the weight of the intermediate pixel in the gradient solution. Finally, they use the iterative averaging method to determine the optimal threshold and reduce the error rate of image edge segmentation.

In the article titled ‘Fine-grained sentiment classification based on semantic extension of target word’, Xindong You, Pengfei Guan, Xueqiang Lv, Baoan Li and Xueping Ren introduce a fine-grained sentiment classification method. First, they expand target words by using the semantic distance of the word embedding. Then, they use the bidirectional LSTM neural network to extract the semantic information afterward. Finally, they employ the attention mechanism to learn the sentiment weight distribution of the target words.

In the article titled ‘Research on evaluation of minimum backbone grid of transmission network based on differentiation planning’, Xinyang Deng, Tao Wang, Yihe Wang, Na Zhang, Kai Liu and Fangyuan Yang evaluate important nodes and important lines of the backbone grid of transmission network for the differential planning. For the former, they take into account the structural fragile nodes and the important load nodes to evaluate the important node. For the latter, they consider the structural fragile line and the important load line to evaluate the important line.

In the article titled ‘Research on control strategy of grid-connected inverter based on three-loop structure’, Yan Geng, Yingjun Ju, Bo Hu and Jianwei Ji discuss a grid-connected inverter system based on the two-stage single-phase PV grid-connected inverter. They use the full-bridge structure in the backend inverter circuit. Then, they propose the three-loop control strategies in the inverter system to improve the system’s response speed. After that, they propose an improved dead-time compensation method for the zero-current clamping phenomenon.

The guest editors would like to express their deep gratitude to all the authors who have submitted their valuable contributions, and to the numerous and highly qualified anonymous reviewers.