Deep learning is a subfield of machine learning research, to design models and learning algorithms for deep neural networks. Due to the ability of learning from big data and the superior representation and prediction performance, deep learning has gained great successes in various applications of pattern recognition and artificial intelligence, including character and text recognition, image segmentation, object detection and recognition, traffic sign recognition, to name a few. Intensive attention has been drawn to the exploration of new deep learning models and algorithms, and the extension to more application areas. The combination of deep learning and traditional methods in pattern recognition and artificial intelligence has also demonstrated benefits.

The technology of document analysis and recognition (DAR) is to analyze the structure and textual contents of document images and handwriting. It faces numerous application needs such as digitization of books and forms, pen-based text input, information extraction from Web document images. It has been under study as a field of pattern recognition since 1960s. In recent years, the introduction of deep learning to DAR has led to significant improvement of performance in many branches, particularly in the cases when large sets of labeled data are available for supervised learning, such as handwritten character and text recognition. Among the most successful deep learning models are the convolutional neural network (CNN) and the recurrent neural network with long short-term memory (LSTM). The application of deep learning is now extended to scene text detection and recognition, document image segmentation and layout analysis, writer identification, document retrieval, and so on.

This special issue is aimed to report the new advances in DAR using deep learning methods. Articles presenting reviews, perspectives, new methods and applications in DAR are cordially invited. Research contributions should reflect a significant advancement both in the state-of-the-art for document image analysis as well as for deep learning. Survey papers should be complete and comprehensive and address applications of deep learning to important problems in document image analysis. The topics of interest include, but are not limited to uses of Deep Learning for:
- Document image processing and segmentation
- Layout analysis
- Character and text recognition
- Scene text detection and recognition
- Writer identification and signature analysis
- Document retrieval
- Context modeling
- Graphics and symbol recognition
- Other DAR tasks

Submission Guidelines

Please prepare and submit manuscripts following the Instructions for Authors at http://www.springer.com/computer/image+processing/journal/10032?detailsPage=pltc_i_1060784
At the online submission entry, please Choose Article Type “S.I.: Deep Learning for Document Analysis and Recognition”

Schedule

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