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Editorial

It is with great pleasure that, together with Springer-Verlag, we introduce this premier issue of the *International Journal on Document Analysis and Recognition* (*IJDAR*).

Over the past decade, we have seen the field of document analysis mature from a sparse collection of disjoint research groups publishing in pattern recognition and image processing related journals to an organized community with a number of workshops, symposia, conferences and now an archival journal. The work that is being reported both in industry and academia directly addresses problems of immediate interest to all organizations faced with either the storage, retrieval, manipulation and use of hardcopy documents or with the need to provide written input to the computer. The ability to automate the processing of written communications impacts general office environments, major industries such as postal operations and financial services, and government agencies and is fundamental in the realization of digital libraries. Although tasks such as Optical Character Recognition have been fundamental problems from the earliest days of pattern recognition, many remain unsolved and related problems are driving renewed interest in the field.

Document analysis requires the application of techniques from many fields such as computer vision, image analysis, pattern recognition, and artificial intelligence, as well as knowledge of specialized domains for visual perception, linguistic analysis, natural language processing, and information retrieval. As the field continues to develop, we will continue to find solutions which integrate expertise from all of these areas.

This journal is dedicated to publishing, in a timely manner, archival quality manuscripts related to the field of document analysis and recognition. We have assembled a world-class, international editorial board, which, over the past two years, has worked diligently to define and refine the scope of this journal and to put in place a structure that will help us meet these goals. The submission of manuscripts on all topics related to document understanding and processing is welcome, and we especially encourage reports on cutting-edge technologies, comprehensive surveys, and special issues on active areas of research.

This first issue of *IJDAR* contains six manuscripts relating to six different areas of document analysis: cursive script recognition, document databases, graphics recognition, fax processing, generation of training data, and skew estimation. In the first paper, Cote, Lecolinet, Cheriet and Suen present work on cursive script recognition which focuses on the use of human perceptual models. The models are derived and used to develop new methods for feature extraction and recognition. In the second paper, Elms, Procter and Illingworth describe a Hidden Markov Model based approach to faxed word recognition. HMMs have the ability to model sequential processes and are rapidly becoming a preferred tool for many applications. Since they can be used without prior segmentation, they are often used for problems that deal with degraded or uncertain input.

The third paper, by Hull and Cullen, presents an approach to defining document image similarity and detecting duplicate documents in large image databases. The ability to deal robustly with document databases and provide traditional database operations such as duplicate identification is essential for the advancement of digital document archives and libraries. The fourth paper, by Kanai and Bagdanov, addresses the problem of skew

detection in compressed images. Compression is required for almost all document images because of the sheer volume of data that is generated when scanning at 200-400 dpi. The cost of decompression can be saved by providing algorithms that can operate on the compressed image.

The fifth paper, by Hobby, addresses the problem of matching ground truth data from an original document with the characters in a rendered document image. The high cost of generating quality ground truth makes techniques very attractive which can generate ground truth data automatically. Finally, Dori and Wenyin describe a vector-based arc segmentation algorithm. Providing reliable segmentation is a fundamental problem in graphics recognition.

These six papers reflect only a portion of the diverse interests of the community. It is our hope that this journal will provide an outlet through which we can reflect and archive the continued progress of this field.

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