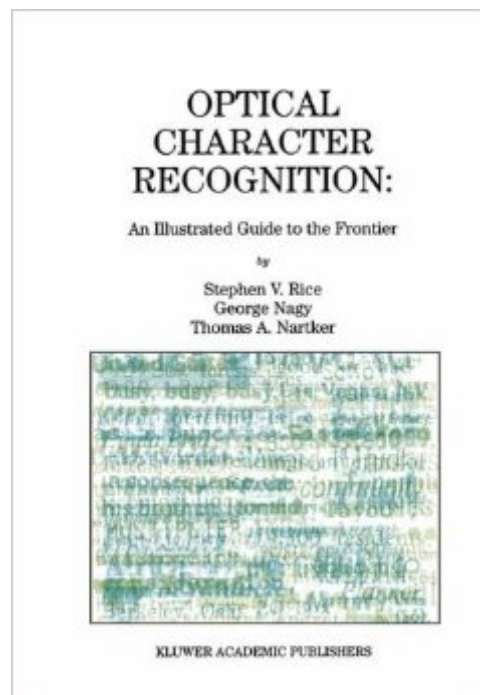# Optical Character Recognition: An Illustrated Guide To The Frontier (The Springer International Series In Engineering And Computer Science)

OPTICAL
CHARACTER
RECOGNITION:

An Illustrated Guide to the Frontier

by

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Synopsis

Optical character recognition (OCR) is the most prominent and successful example of pattern recognition to date. There are thousands of research papers and dozens of OCR products. Optical Character Rcognition: An Illustrated Guide to the Frontier offers a perspective on the performance of current OCR systems by illustrating and explaining actual OCR errors. The pictures and analysis provide insight into the strengths and weaknesses of current OCR systems, and a road map to future progress. Optical Character Recognition: An Illustrated Guide to the Frontier will pique the interest of users and developers of OCR products and desktop scanners, as well as teachers and students of pattern recognition, artificial intelligence, and information retrieval. The first chapter compares the character recognition abilities of humans and computers. The next four chapters present 280 illustrated examples of recognition errors, in a taxonomy consisting of Imaging Defects, Similar Symbols, Punctuation, and Typography. These examples were drawn from large-scale tests conducted by the authors. The final chapter discusses possible approaches for improving the accuracy of today's systems, and is followed by an annotated bibliography. Optical Character Recognition: An Illustrated Guide to the Frontier is suitable as a secondary text for a graduate level course on pattern recognition, artificial intelligence, and information retrieval, and as a reference for researchers and practitioners in industry.

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Customer Reviews

This book is not about OCR per se but about the different kinds of errors OCR systems make and how to correct them using context. It is therefore a specialized book. This book was published in 1999 and is therefore a little bit outdated. However, as someone who works in the area I think that the book is still relevant on the topics it covers. Before I continue I should say that the price currently listed is outrageous and I bought my book for much less.Optical Character Recognition, or OCR for short, is the technology, or art, of turning images with text into machine encoded text. This is not as easy as it sounds. For one thing the OCR software needs to analyze the stream of pixels, identify the relevant text blocks, figure out where the text lines are, find the words, then the individual characters, and then determine from the often noisy image block corresponding to the character what character the fuzzy blob in the picture really corresponds to. There are hundreds of fonts, many font sizes, a near infinite repertoire of different kinds of noise, distortions, smear, etc.In general different OCR systems tend to make similar errors. As an example, the string â œrnâ • is often turned into the character â œmâ • for many fonts almost regardless of what OCR system you use. This book uses three different OCR systems and analyzes the output from these systems in a number of situations in which OCR systems typically fail and the book also suggests remedies when applicable. The book contains an introduction (chapter one), a conclusion (chapter six), and 17 categories of errors spread over the four chapters in between. The book only considers OCR for printed text (not handwriting).

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