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Graphics Recognition

Ten Years Review and Future Perspectives

6th International Workshop, GREC 2005
Hong Kong, China, August 25-26, 2005
Revised Selected Papers



Springer

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Preface

This book contains refereed and improved papers presented at the 6th IAPR Workshop on Graphics Recognition (GREC 2005). This year is the tenth anniversary of GREC, which was started in 1995 and has been held every 2 years: GREC 1995 in Penn State University, USA (LNCS Volume 1072, Springer, 1996); GREC 1997 in Nancy, France (LNCS Volume 1389, Springer, 1998); GREC 1999 in Jaipur, India (LNCS Volume 1941, Springer, 2000); GREC 2001 in Kingston, Canada (LNCS Volume 2390, Springer, 2002); and GREC 2003 in Barcelona, Spain (LNCS Volume 3088, Springer, 2004).

GREC is the main event of IAPR TC-10 (the Technical Committee on Graphics Recognition within the International Association for Pattern Recognition) and provides an excellent opportunity for researchers and practitioners at all levels of experience to meet colleagues and to share new ideas and knowledge about graphics recognition methods. Graphics recognition is a particular field in the domain of document analysis, which combines pattern recognition and image processing techniques for the analysis of any kind of graphical information in documents from either paper or electronic formats. In its 10 year history, the graphics recognition community has extended its research topics from the analysis and understanding of graphic documents (including engineering drawings vectorization and recognition), to graphics-based information retrieval and symbol recognition, to new media analysis, and even stepped into research areas of other communities, e.g., sketchy interfaces and on-line graphics recognition, so as to face up to new challenges. These continuous changes show that we are a dynamic, active, and promising scientific community.

The program of GREC 2005 was organized in a single-track 2-day workshop. It comprised several sessions dedicated to specific topics. For each session, there was an overview talk, followed by a number of short presentations and concluded by a panel discussion. Session topics included “Engineering Drawings Vectorization and Recognition,” “Symbol Recognition,” “Graphic Image Analysis,” “Structural Document Analysis,” “Sketching and On-Line Graphics Recognition,” and “Curve and Shape Processing.” In addition, a special session of panel discussion was dedicated to the 10th anniversary of GREC, which focused on the summary of the achievements of GREC in the past 10 years and the planning of GREC in the next 10 years.

Continuing with the tradition of past GREC workshops, the program of GREC 2005 also included two graphics recognition contests: a symbol recognition contest, organized by Ernest Valveny and Philippe Dosch, and an arc segmentation contest, organized by Liu Wenjin. In these contests, test images and ground truths are prepared in order for contestants to have objective performance evaluation conclusions on their methods.

After the workshop, all the authors were invited to submit enhanced versions of their papers for this edited volume. The authors were encouraged to include ideas and suggestions that arose in the panel discussions of the workshop. Every paper was evaluated by two or three reviewers. At least one reviewer was assigned from the attendees of the workshop. Papers appearing in this volume were selected and most of

them were thoroughly revised and improved based on the reviewers' comments. The structure of this volume is organized in eight sections, reflecting the workshop session topics.

We want to thank all paper authors and reviewers, contest organizers and participants, and workshop attendees for their contributions to the workshop and this volume. Special thanks go to the following people: Miranda Lee for her great efforts in managing all logistic work; Wan Zhang, Tianyong Hao, and Wei Chen for their help in preparing the workshop proceedings and this volume; Karl Tombre for leading the panel discussion session dedicated to the tenth anniversary of GREC and providing an insightful summary of the discussion. Finally, we gratefully acknowledge the support of our sponsors: The City University of Hong Kong, IAPR, K. C. Wong Education Foundation, and The Hong Kong Web Society.

During the review process, we received the extremely sad news of the unexpected passing away of Adnan Amin. Adnan was an active researcher in the graphics recognition community. He participated in several GREC Workshops and was a member of the Program Committee of GREC 2005. He will be sorely missed by all of us. We would like to dedicate this book to the memory of Adnan.

The 7th IAPR Workshop on Graphics Recognition (GREC 2007) is planned to be held in Curitiba, Brazil, together with ICDAR 2007.

April 2006

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Table of Contents

Engineering Drawings Vectorization and Recognition

| | |
|--|----|
| Vectorization and Parity Errors <i>Alexander Gribov, Eugene Bodansky</i> | 1 |
| A Vectorization System for Architecture Engineering Drawings <i>Feng Su, Jiqiang Song, Shijie Cai</i> | 11 |

Symbol Recognition

| | |
|--|----|
| Musings on Symbol Recognition <i>Karl Tombre, Salvatore Tabbone, Philippe Dosch</i> | 23 |
| Symbol Spotting in Technical Drawings Using Vectorial Signatures <i>Marçal Rusiñol, Josep Lladós</i> | 35 |
| A Generic Description of the Concept Lattices' Classifier: Application to Symbol Recognition <i>Stéphanie Guillas, Karell Bertet, Jean-Marc Ogier</i> | 47 |
| An Extended System for Labeling Graphical Documents Using Statistical Language Models <i>Andrew O'Sullivan, Laura Keyes, Adam Winstanley</i> | 61 |
| Symbol Recognition Combining Vectorial and Statistical Features <i>Hervé Locteau, Sébastien Adam, Éric Trupin, Jacques Labiche, Pierre Héroux</i> | 76 |

Graphic Image Analysis

| | |
|---|-----|
| Segmentation and Retrieval of Ancient Graphic Documents <i>Surapong Uttama, Pierre Loonis, Mathieu Delalandre, Jean-Marc Ogier</i> | 88 |
| A Method for 2D Bar Code Recognition by Using Rectangle Features to Allocate Vertexes <i>Yan Heping, Zhiyan Wang, Sen Guo</i> | 99 |
| Region-Based Pattern Generation Scheme for DMD Based Maskless Lithography <i>Manseung Seo, Jaesung Song, Changgeun An</i> | 108 |

| | |
|--|-----|
| Global Discrimination of Graphic Styles <i>Rudolf Pareti, Nicole Vincent</i> | 120 |
| Recognition for Ocular Fundus Based on Shape of Blood Vessel <i>Zhiwen Xu, Xiaoxin Guo, Xiaoying Hu, Xu Chen, Zhengxuan Wang</i> | 131 |
| Adaptive Noise Reduction for Engineering Drawings Based on Primitives and Noise Assessment <i>Jing Zhang, Wan Zhang, Liu Wenyin</i> | 140 |
| Structural Document Analysis | |
| Extraction of Index Components Based on Contents Analysis of Journal's Scanned Cover Page <i>Young-Bin Kwon</i> | 151 |
| Crosscheck of Passport Information for Personal Identification <i>Tae Jong Kim, Young Bin Kwon</i> | 162 |
| String Extraction Based on Statistical Analysis Method in Color Space <i>Yan Heping, Zhiyan Wang, Sen Guo</i> | 173 |
| Interactive System for Origami Creation <i>Takashi Terashima, Hiroshi Shimanuki, Jien Kato, Toyohide Watanabe</i> | 182 |
| Using Bags of Symbols for Automatic Indexing of Graphical Document Image Databases <i>Eugen Barbu, Pierre Héroux, Sébastien Adam, Éric Trupin</i> | 195 |
| A Minimal and Sufficient Way of Introducing External Knowledge for Table Recognition in Archival Documents <i>Isaac Martinat, Bertrand Couâsnon</i> | 206 |
| Database-Driven Mathematical Character Recognition <i>Alan Sexton, Volker Sorge</i> | 218 |
| Recognition and Classification of Figures in PDF Documents <i>Mingyan Shao, Robert P. Futrelle</i> | 231 |

Sketching and On-Line Graphics Recognition

| | |
|---|-----|
| An Incremental Parser to Recognize Diagram Symbols and Gestures Represented by Adjacency Grammars <i>Joan Mas, Gemma Sanchez, Josep Lladós</i> | 243 |
| Online Composite Sketchy Shape Recognition Using Dynamic Programming <i>Zheng Xing Sun, Bo Yuan, Jianfeng Yin</i> | 255 |
| Using a Neighbourhood Graph Based on Voronoï Tessellation with DMOS, a Generic Method for Structured Document Recognition <i>Aurélié Lemaitre, Bertrand Coüasnon, Ivan Leplumey</i> | 267 |
| Primitive Segmentation in Old Handwritten Music Scores <i>Alicia Fornés, Josep Lladós, Gemma Sánchez</i> | 279 |

Curve and Shape Processing

| | |
|---|-----|
| Generic Shape Classification for Retrieval <i>Manuel J. Fonseca, Alfredo Ferreira, Joaquim A. Jorge</i> | 291 |
| Polygonal Approximation of Digital Curves Using a Multi-objective Genetic Algorithm <i>Herve Locteau, Romain Raveaux, Sebastien Adam, Yves Lecourtier, Pierre Heroux, Eric Trupin</i> | 300 |
| A Contour Shape Description Method Via Transformation to Rotation and Scale Invariant Coordinates System <i>Min-Ki Kim</i> | 312 |
| Feature Detection from Illustration of Time-Series Data <i>Tetsuya Takezawa, Toyohide Watanabe</i> | 323 |
| Sketch Parameterization Using Curve Approximation <i>Zheng Xing Sun, Wei Wang, Lisha Zhang, Jing Liu</i> | 334 |
| Biometric Recognition Based on Line Shape Descriptors <i>Anton Cervantes, Gemma Sánchez, Josep Lladós, Agnès Borràs, Ana Rodríguez</i> | 346 |

Reports of Contests

| | |
|---|-----|
| The Third Report of the Arc Segmentation Contest <i>Liu Wenyin</i> | 358 |
|---|-----|

| | |
|---|-----|
| RANVEC and the Arc Segmentation Contest: Second Evaluation <i>Xavier Hilaire</i> | 362 |
| Optimal Line and Arc Detection on Run-Length Representations <i>Daniel Keysers, Thomas M. Breuel</i> | 369 |
| Report on the Second Symbol Recognition Contest <i>Philippe Dosch, Ernest Valveny</i> | 381 |
| Symbol Recognition Using Bipartite Transformation Distance and Angular Distribution Alignment <i>Feng Min, Wan Zhang, Liu Wenyin</i> | 398 |
| Robust Moment Invariant with Higher Discriminant Factor Based on Fisher Discriminant Analysis for Symbol Recognition <i>Widya Andyardja Weliamto, Hock Soon Seah, Antonius Wibowo</i> | 408 |
| Panel Discussion | |
| Graphics Recognition: The Last Ten Years and the Next Ten Years <i>Karl Tombre</i> | 422 |
| Author Index | 427 |