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Graphics Recognition

Achievements, Challenges, and Evolution

8th International Workshop, GREC 2009
La Rochelle, France, July 22-23, 2009
Selected Papers

Springer

Volume Editors

Jean-Marc Ogier
Université de La Rochelle, France
E-mail: jean-marc.ogier@univ-lr.fr

Wenyin Liu
City University of Hong Kong, China
E-mail: csliuwy@cityu.edu.hk

Josep Lladós
Universitat Autònoma de Barcelona, Bellaterra, Spain
E-mail: josep@cvc.uab.es

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Preface

This book contains refereed and improved papers presented at the 8th IAPR Workshop on Graphics Recognition (GREC 2009), held in La Rochelle, France, July 22–23, 2009. The GREC workshops provide 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 subfield of document image analysis that deals with graphical entities in engineering drawings, sketches, maps, architectural plans, musical scores, mathematical notation, tables, diagrams, etc. GREC 2009 continued the tradition of past workshops held in the Penn State University, USA (GREC 1995, LNCS Volume 1072, Springer Verlag, 1996); Nancy, France (GREC 1997, LNCS Volume 1389, Springer Verlag, 1998); Jaipur, India (GREC 1999, LNCS Volume 1941, Springer Verlag, 2000); Kingston, Canada (GREC 2001, LNCS Volume 2390, Springer Verlag, 2002); Barcelona, Spain (GREC 2003, LNCS Volume 3088, Springer Verlag, 2004); Hong Kong, China (GREC 2005, LNCS Volume 3926, Springer Verlag, 2006); and (GREC 2007, LNCS Volume 5046, Springer Verlag, 2008).

The program of GREC 2009 was organized in a single-track 2-day workshop. It comprised several sessions dedicated to specific topics. For each session, there was an invited presentation describing the state of the art and stating the open questions for the session's topic, followed by a number of short presentations that contributed by proposing solutions to some of the questions or by presenting results of the speaker's work. Each session was then concluded by a panel discussion. Session topics included structural approaches for recognition and indexing, techniques towards vectorization, sketching interfaces, on-line processing, symbol and shape segmentation, description and recognition, historical documents analysis, indexing, spotting, and performance evaluation and ground truthing. In addition, a panel discussion on the state of the art and new challenges was organized as the concluding session of GREC 2009.

Continuing with the tradition of past GREC workshops, the program of GREC 2009 included graphics recognition contests. In particular, two contests were held: an arc segmentation contest, organized by Hasan S.M. Al-Khaffaf and Abdullah Zawawi Talib, and a symbol recognition contest, organized by Philippe Dosch, Ernest Valveny and Mathieu Delalandre. In these contests, for each contestant, test images and ground truths were prepared in order 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 workshop attendees. 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 seven 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. In particular, we gratefully acknowledge Karl Tombre for leading the panel discussion and the group of the University of La Rochelle for their great help in the local arrangements of the workshop.

The 9th IAPR Workshop on Graphics Recognition (GREC 2011) is planned to be held at Seoul, Korea.

April 2010

Jean-Marc Ogier
Liu Wenyin
Josep Lladós

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