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In this issue...

Calls for Papers

AND 2007
Workshop on
Analytics for Noisy Unstructured Text Data
Held at
IJCAI 2007 *International Joint Conference on*
Artificial Intelligence
Hyderabad, India
Deadline: September 25, 2006
January 6-8, 2007

SCIA 2007
15th Scandinavian Conference on Image Analysis
Aalborg, Denmark
deadline: December 1, 2006
June 10-13, 2007

MVA 2007
10th IAPR International Conference on
Machine Vision Applications
Tokyo, Japan
Deadline: December 15, 2006
May 16-18, 2007

PRIP 2007
Ninth International Conference on Pattern Recognition
and Information Processing
Minsk, Belarus
Deadline: December 15, 2006
May 22-24, 2007

ICDAR 2007
9th International Conference on Document Analysis and
Recognition
Curitiba, Parana, Barzil
Deadline: January 15, 2007
September 23-26, 2007

CIVR 2007
6th International Conference on
Image an dVideo Retrieval
Amsterdam, Netherlands
Deadline: February 5, 2007
July 18-20, 2007

ICPR 08
19th International Conference on Pattern Recognition
Tampa, Florida
deadline: ?, 2008
December 8-11, 2008

Call for Submissions

IAPR Newsletter
Articles, announcements, book reviews,
conference and workshop reports

Contact the editor: *logorman@avaya.com*

Deadline: September 15, 2006

Feature Article

Pattern Recognition in Digital Libraries

By **Larry O'Gorman**

Doing research into the Greenstone Digital Library project brought me back to my days as a student when, on a slow afternoon, I might just wander the stacks of the university library and let serendipity happen. I did the same with Greenstone, going to a web page listing examples of libraries built with Greenstone software, choosing a few, and perusing the contents. The choices were variously fascinating, entertaining, mesmerizing, and horrifying. I looked at pictures of bridges built during the 19th century in the Lehigh University Digital Bridges Collection, and of ships that plied the Great Lakes in the Great Lakes Shipping Database. I read about the history, culture, and land claims of the British Columbia aboriginal peoples in a library called, Our Homes are Bleeding / Nos Foyers Saignent. I listened to readings from poets and writers who had attended the Iowa Writers' Workshop in The Writing University Archive. I learned about the mechanics of refrigeration in coursework material contained in, Revised Curricula for Nigerian Polytechs. I found material on instances and prevention of landslides in the WHO Health Library for Disasters. And, I sampled news articles, legislation, and pictures covering kidnapped children during the 1970s and 1980s in an archive called, Human Rights in Argentina.

In the late 1980s, a number of technologies were reaching the stage that would enable development of digital libraries. Probably, the three precipitating technologies were: faster computers, larger computer memories, and inexpensive scanning hardware (brought about due to widespread use of fax machines) to efficiently and economically handle high resolution images of pages containing text. These advancements paved the way for document analysis techniques of image capture and processing, binarization, and optical character recognition (OCR). With these technologies, a digital library could be built of books, journals, and other material that could be read from scanned images and searched via the recognized text.

In the early 1990s, Ian Witten, a professor at the University of Waikato in New Zealand, was performing work in text and index compression, and applying this work to the "gray literature" of research papers in computer science. At that time, Michel Loots, a Belgian doctor

Ian Witten pursues his digital and non-digital libraries in New Zealand.

practicing in Africa, was formulating the idea that access

to appropriate information was the overarching problem faced by developing countries, and contacted Ian for help on this. Under a newly formed Human Info NGO, Loots compiled several collections of humanitarian information from various international organizations using Ian's software to make them available on CD-ROM as fully-searchable digital library collections. This was all that was needed to give Ian a focus that continues to this day.

The fact that his software supported many humanitarian CD-ROMs that were widely distributed in developing countries was influential and satisfying; however, Ian had learned something during this work. In the words of the Chinese proverb, "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime." If he could offer the tools to build a digital library, rather than the library itself, the recipients themselves could populate the contents in a more effective and sustainable fashion than if this were just given to them. This began what would become the Greenstone Digital Library project, a software package enabling users to develop and distribute digital library collections via CD-ROMs or the Web. A partnership with UNESCO (United Nations Educational, Scientific and Cultural Organization) provided input from potential end-users and facilitated wide distribution of the software. This project was built upon some fundamental principles. The interface must be simple to use for people with little or no technical training. The software must run on multiple operating systems; it could not depend upon the latest version of that operating system to run efficiently because many computers in developing countries had dated hardware and software. The software would have to be designed to support interfaces in many different languages. The package must be open source software.

The most extensive set of libraries built with Greenstone are under the New Zealand Digital Library, which contains about 40 libraries of different humanitarian and UN collections. Included here is: food and nutrition library, humanity development library, agricultural information modules, and the WHO (World Health Organization) medicines bookshelf. A particularly unusual library is built for the illiterate, which includes 20% of the world's population and 40% of those in sub-Saharan Africa, the mid-East, and South Asia. This library, called First Aid in Pictures, contains simple illustrations of injuries and their proper first aid responses. The New Zealand Digital Library has been endorsed by the Communication Sub-Commission of the New Zealand National Commission for UNESCO as part of New Zealand's contribution to UNESCO. In 2004, this work was made the 7th recipient of the IFIP (Internatonal Federation for Information Processing) Namur award. This is a biennial award for an outstanding contribution with international impact to the awareness of social
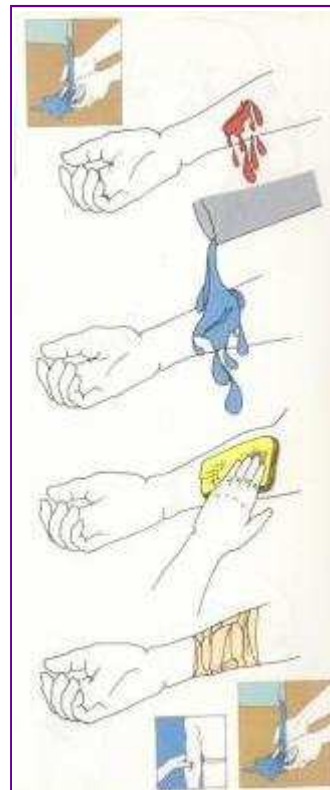
An image from the First Aid in Pictures digital library.

implications of information technology. Professor Witten's award lecture was entitled, "Democratizing information: Digital libraries, developing countries, and information for all".

Since November 2000, Greenstone has been downloaded on an average of 4500 copies per month. It is available to end-users in about 40 languages and to librarians in English, French, Spanish, and Russian. Training courses are given internationally. One country that has embraced this technology in a major way is India. As Ian explained, "Sometimes the adoption of new technology in developing countries leapfrogs currently adopted technologies in developed countries." In India's case, traditional libraries are rare,

especially outside of the major cities; however there are substantial efforts now in making volumes available digitally. As evidence of this strong interest, the President of India, Dr. A. P. J. Abdul Kalan, inaugurated the International Conference on Digital Libraries, held in New Delhi in 2004. In a speech demonstrating his support and keen awareness of digital libraries he spoke of the advantages these can bring to countries of the world, especially those less privileged.

Ian lists several challenges for future digital library work. The number one challenge is interoperability. The US Library of Congress and others participate in setting standards for digital libraries, and the pace of introduction of new standards has accelerated, so keeping up with this is a task in itself. Preservation of materials is another challenge. In Ian's words, "No one yet understands the world of preservation." We will face this challenge even with our personal "digital libraries" of digital photographs. Another challenge is education. Although Ian himself travels the world giving courses to augment the Greenstone training and

material offered by UNESCO, there is still the need for more education to foster higher adoption rates. One challenge Ian addresses directly to the pattern recognition community is the need for open source OCR software and methods for page layout analysis and title/author extraction. Although commercial packages are available, these cannot be included in the open source Greenstone.

While this article has focused on the benefits of digital libraries for developing countries, Greenstone software can be used for any type of library – as evidenced by the North American bridge and ship libraries mentioned in the introductory paragraph.

If you have content that should be available to others, Greenstone is available to do this. If you are a researcher, look over the challenges described above to see if you might focus your efforts on any of these. And, if you just wish to virtually reenact wanderings of university stacks from your student days, go to www.greenstone.org, choose a library, and let serendipity happen.

References

Greenstone Digital Library web page: www.greenstone.org

Ian Witten's personal page: http://www.cs.waikato.ac.nz/~ihw/

New Zealand Digital Library:
http://www.sadl.uleth.ca/nz/cgi-bin/library

How to Build a Digital Library by Ian H. Witten, David Bainbridge, Morgan Kaufmann; 1st edition (July 15, 2002)

Namur Award lecture:
http://www.info.fundp.ac.be/%7Ejbl/IFIP/NA2004_Lecture.htm

INSIDE the IAPR

The Conferences and Meetings Committee

By Larry Spitz, Outgoing chair, IAPR Conferences and Meetings Committee

The Conferences and Meetings (C&M) Committee has two principal tasks: The approval of IAPR sponsorship or endorsement of external conferences and the receipt and evaluation of proposals to host ICPR.

Each year we receive applications for sponsorship or endorsement from the organizers of approximately 20 conferences or workshops. Such applications should comply with the guidelines published on the IAPR web page. Members of the C&M Committee evaluate the proposals for compliance, but more importantly evaluate the proposals in an attempt to ensure scientific quality.

IAPR sponsorship is awarded to events organized typically by IAPR technical committees or member societies, focused on a topic or theme, with substantial international participation in the event and representation in the organizing committee.

IAPR endorsement applies to events organized by any scientific entity, including IAPR technical committees and member societies, with topics or

themes which are within the scope of IAPR's technical interests as determined by the C&M Committee.

Over the past few years we have tightened the standards we use for evaluation. We now explicitly require that reviews be performed on full papers rather than on extended abstracts. We also require that organizers not penalize authors of multiple papers by increasing their registration fees. We encourage events organizers to provide a discounted registration fee to members of IAPR member societies.

We encourage publications of proceedings in such a manner that the papers will be available to the scientific community in general. A feature which not many organizers have taken advantage of is the application of IAPR levy funds to support distinguished speakers, travel stipends and best paper awards.

ICPR

ICPR is a special case since it is the conference of IAPR itself.

Every two years, C&M encourages the submission of proposals to host

ICPR four years hence. Proposals are submitted to C&M for initial evaluation of compliance to ICPR standards. Compliant submissions are forwarded to the IAPR Executive Committee (the ExCo) and are placed on the IAPR web site for access by Governing Board (GB) members. The committee then makes a recommendation to the GB, which selects from the submitted proposals. The winning proposal is announced at ICPR.

In the intervening four years between submission of proposal and the event, C&M monitors the progress of the organization and offers guidance and assistance in hosting of a successful ICPR from both scientific and logistical aspects.

C&M assisted in the drafting of a Memorandum of Understanding between the successful bidder and IAPR formalizing the duties and responsibilities involved in the process of hosting this major conference.

We have also recently completed a first draft of explicit guidelines for hosting ICPR.

News from the
IAPR EXECUTIVE COMMITTEE

By Denis Laurendeau

By the time you receive this newsletter, members of the IAPR community prepare for the 18th Edition of the International Conference on Pattern Recognition (ICPR), to be held in Hong Kong, China, on August 20-24. ICPR is IAPR's main event and, again this year, is attracting a large number of papers in the conference's five tracks. We all look forward to an exciting scientific program and, as it has now become a tradition, to an opportunity to exchange ideas with colleagues and friends from all around the world.

Again this year, the ExCo has announced that a number of travel stipends, to the amount of 700$US, were made available to authors of accepted ICPR papers, oral or poster, who would not be able to attend the ICPR without this contribution. Clearly, the interest was overwhelming since 199 applications were received and, after careful examination, 40 stipends were given to ICPR authors – most of them PhD students – from the following countries: China, India, Thailand, Malaysia, Russia, Slovenia, Czech Republic, Mexico, Iran, Canada, Australia, UK, Spain, and the USA. We wish the lucky recipients, but also all other authors and participants, a very pleasant and fruitful attendance at ICPR, and we do hope that the money spent in this way will have a good scientific impact on the authors' own research and that of their respective institutions.

As you will probably read elsewhere in this newsletter, The K.S. Fu Prize Committee unanimously recommended Professor Josef Kittler to receive this year's K.S. Fu Prize. The committee was impressed by Prof. Kittler's rigorous and systematic application of probability theory for developing new approaches and methodologies in pattern recognition and image processing. The Governing Board approved this nomination by a unanimous vote. The ExCo extends its warmest congratulations to Prof. Kittler.

This year is the first year that the new IAPR J-K Aggarwal Prize is given to a young scientist who has brought a substantial contribution to a field that is relevant to the IAPR community and whose research work has had a major impact on the field. The Governing Board approved the creation of the J-K Aggarwal Prize by majority vote. The J-K Aggarwal Prize Committee unanimously recommended Professor Bernhard Schölkopf to receive this year's J-K Aggarwal Prize for popularizing and advancing the field of kernel methods and for showing its broad applicability to pattern recognition problems. The ExCo extends its warmest congratulations to Prof. Scholkopf.

The Fellowship Committee has also finished its job and has proposed 15 new IAPR Fellows, who will receive their Fellow certificate at ICPR. The number of new Fellows to be elected is based on a percentage (0.25%) of the total membership of IAPR. More than 29 nominations for valuable candidates were submitted. The ExCo warmly invites the nominators to present next time updated nominations of candidates who were not elected this year.

We remind GB-members to check the GB-reserved area of the IAPR website, where info on the GB-meeting is posted. GB-members will be informed of when the documents will be available in the GB-reserved area of the website. No mailing of the document will be done, and GB-members are kindly requested to print the material relevant for the GB-meeting directly from the IAPR website.

This is the last "From the ExCo" column written by the outgoing Executive Committee. We all feel that it has been a pleasure and an honour to serve the IAPR community these last two years, and we wish all the best to the new committee, which will be elected at the Governing Board meeting in Hong Kong.

We look forward to meeting many of you in Hong Kong.

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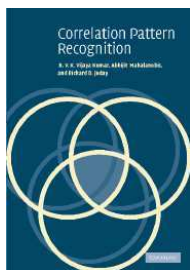
Correlation Pattern Recognition

by
B. V. K. Vijaya Kumar, Abhijit Mahalanobis, Richard D. Juday
Cambridge University Press, 2005

Reviewed by: **Larry O'Gorman**

It was a wonder to me when, back in the early 1980s while doing my graduate studies at Carnegie Mellon University, I learned about optical signal processing. Back then, when an FFT (fast Fourier transform) on a digital signal would take an interminable 10s of seconds, an optical lens could perform a 2-D Fourier transform at the speed of light! That may not be so surprising to any child who has produced a rainbow from a prism, but what truly surprised me was that one of the most useful and common operations in signal processing, correlation, could also be performed optically. It was Professors David Cassasent and Vijaya Kumar who taught that course, and now Professor Kumar with Abhijit Mahalanobis and Richard Juday have authored a book, *Correlation Pattern Recognition*, which describes theory and application of digital and optical correlation.

Correlation is a basic operation. If you know the signal you are trying to detect, this target signal can be correlated over a 1-D waveform or 2-D image to determine if and where the target ex-

ists. Furthermore, this operation can be performed with equivalent results in the time/spatial or 1-D/2-D frequency domain. So, what does a whole book on correlation offer beyond this? The answer is: plenty. Just as we know that correlation is a straightforward operation, we also know the drawbacks—a low tolerance to noise, rotation, and size of the target and a high computational load to operate globally when only portions of a signal may be of interest. This book educates the reader on the richness of correlation and offers techniques to surmount these drawbacks.

As is stated in the Preface, the authors believe that one of the reasons correlation is not used more in pattern recognition is that the practitioner must know fundamentals of several fields. For this reason, the first three chapters (after the Introduction) provide this background. Chapter 2 provides mathematical background, mainly in matrix operations and probability. Chapter 3 discusses linear systems and filtering theory, including topics such as sampling the-

ory and Fourier transforms, which are basics of a digital systems or digital signal processing course. Chapter 4 covers detection and estimation, basics of a first pattern recognition course.

Following this, the book digs into correlation. After acknowledging the matched filter, Chapter 5 explains more details, many of which will likely show the frustrated matched filter user how to deal with the subtleties that may have caused a switch to feature-based techniques. For instance, this chapter discusses noise, background, and the ability to optically detect the correlation peak. Chapter 6 covers advanced correlation filters. The synthetic discriminant function (SDF) addresses one of the problems of basic correlation, its intolerance to target distortions, such as occlusions, 3-D distortions, and illumination variations. The SDF entails the combination of training images containing expected distortions.

Chapters 7 and 8 cover optical correlation. My only disappointment is not with the book, but the fact as described here that

optical correlation now takes a second place in popular use to digital correlation — despite optical's speed-of-light processing time. One reason for this is increased digital computer speeds, but another is that the progress of input/output devices for optical processors, called spatial light modulators, has been slow. Another reason is that optical lenses and other optical hardware are adjusted, etc., with far less versatility than software alone. Chapter 7 describes basic optical concepts and Chapter 8 details optical correlation techniques.

Finally, Chapter 9 discusses two applications on which the authors have worked and published extensively: target recognition in synthetic aperture radar (SAR) images and face recognition. The inclusion of these two applications is complementary in the following ways. The SAR images contain mainly military vehicles that are objects of rigid shapes, but these are often occluded, camouflaged, and captured at various 3-D perspectives. The face images are often more constrained in pose (perspective angle) and background, but have the added difficulty that the shape of interest is non-rigid.

This book is well-written with many diagrams and gray-scale images to illustrate the concepts, although I felt that some of the images were rather small. I very much liked the bulleted summary points at the ends of each chapter. This book is intended for advanced undergraduate and graduate students, and would be especially useful for pattern recognition practitioners interested in expanding their tool chest beyond basic correlation.

Free Book Offer on Page 13

ICPR TC-16
Algebraic and Discrete Mathematical Techniques in Pattern Recognition and Image Analysis

Call for Participation

By Dr.-Eng. Igor B. Gurevich

Association
for Pattern Recognition and Image Analysis
of
Russian Federation

CC RAS, 40, Vavilov str., Moscow, Russia, 119991

Tel./ Fax.: 7 (095) 135 90 33; E-mail: igourevi@ccas.ru

№ 23-VI/2006- IAPR-TC 16   20.06.2006

Dear Colleagues!

Please be informed that Technical Committee 16 (TC 16) "Algebraic and Discrete Mathematical Techniques in Pattern Recognition and Image Analysis" of the International Association for Pattern Recognition (IAPR) is extending the scope of activity. In this connection You are kindly invited to join TC16.

Persons interested are invited to send the information in the following format:

    name, surname,
    affiliation,
    position,
    degree,
    phone number,
    e-mail,
    mailing address,
    suggestions on TC16 scope of scientific activity for the years of 2006-2008 (up to 1 page).

The requested information will be presented at TC 16 web-site.

Thank you in advance,

Best regards,

Dr.-Eng. Igor B.Gurevich
IAPR Fellow
TC 16 Chairman

Workshop Report: VP4S-06

1st International Workshop on Video Processing for Security

Held jointly with the Canadian Conference on Computer and Robot Vision (CRV'06)

7-9 June 2006
Quebec City, Quebec, Canada
Report prepared by Program Chairs Dmitry O. Gorodnichy, IIT- NRC, Canada, and Lijun Yin, SUNY at Binghamton, USA

As a follow-up of the past IEEE-published workshops on Face Processing in Video: FPiV'04 (jointly with CVPR'04) and FPiV'05 (jointly with CRV'05), the First International Workshop on Video Processing for Security (VP4S-06) has been held jointly with the Canadian Conference on Computer & Robot Vision (CRV'06) on June 7-9 in Quebec City, Canada. This workshop kept its focus on processing video data (in particular such as coming from surveillance cameras), while its main theme shifted towards security-related applications, and its interest extended from face detection, tracking, recognition, coding to people, objects, scene and action detection, tracking and recognition.

Attended by over a hundred researchers, VP4S-06 workshop consisted of two oral sessions and a poster/demo session. Oral sessions featured seven papers accepted

> A description of the program with links to obtain full-text is available at *www.computer-vision.org/4security*.

from fifteen Tier I submissions. These papers are published by IEEE as part of the CRV'06 proceedings. They include three papers on detecting and tracking people in a single camera video - one uses pixel-weighting to make object matching distance invariant, one applies K-means clustering to improve foreground detection, and one improves multiple-part object tracking by using correlograms; two papers on multiple-sensor setups for person – one improves person detection by using several cameras, the other presents a system that combines video data with the data obtained from infrared and fingerprint readers; and two papers on face recognition in video: one tackles this most challenging video recognition problem by using stereo video, while the other does it by combining a global

The First International Workshop on Video Processing for Security.

facial classifier with four local ones, corresponding to eyes, nose, and mouth.

The poster/demo session presented nine contributions accepted from the late Tier II submissions. These contributions are published at the workshop website and include posters and demos on the following topics: multiple-object tracking with moving cameras using active contours; multiple-people tracking using correlation; comparison of mpeg-based motion detection with pixel-based motion detection; designing surveillance systems for long-term monitoring and activity summarization; using associative neural networks as alternative to histograms and correlograms in multiple-object tracking; video-based face characterization using factorized feature points; automated surveillance using self-organizing maps; fall detection using head trajectory analysis; and hand tracking based analysis of medication intake.

The success of the workshop was possible due to the effort of the international program committee, additional reviewers, the organizers of the CRV'06 and its other joints conferences on Artificial Intelligence (AI'06) and Graphics Interface (GI'06) as well as the IEEE publisher. For more information on the VP4S-06 workshop, including the workshop online submissions and information on the next workshop venue and date, see the workshop website at *www.computer-vision.org/4security*.

See you at ICPR 2006!

ICPR2006

The 18th International Conference on Pattern Recognition

20 - 24 August 2006 Hong Kong

ICPR 2006 will be held at the Hong Kong Convention and Exhibition Center

It's not too late to register!

ICPR 2006 Contact Information:

ICPR06 Secretary
icpr06@comp.hkbu.edu.hk

The Venue

The award-winning, multi purpose-built Hong Kong Convention and Exhibition Centre is larger than any in Asia outside Japan - five exhibition halls, two ballroom-style convention halls, two world-class theatres, 52 variously sized meeting rooms, two large foyers for pre-function gatherings plus supporting amenities.

ICPR 2006 will consist of 5 tracks:

Computer Vision and Image Analysis

Pattern Recognition and Basic Technologies

Signal, Speech and Image Processing

Systems, Robotics and Applications (with Associated Theme : Biometrics)

Cognitive Approaches & Soft Computing

See you in Hong Kong!

Of interest...

Free Books!
By Larry O'Gorman, Newsletter editor

Now that I've got your attention, there are a couple things I'd like to mention about the book reviews in the *IAPR Newsletter*:

Book Authors - I request that authors of newly published books in pattern recognition and related fields please inform me of this so a review can be written for the Newsletter.

Potential Book Reviewers - I have a backlog of books that need to be reviewed, and I would appreciate experts in areas related to the books' topics to offer to review these. I will send the book to reviewers. Yes, you get to keep the book. If you think you might like to review a book, but need more information, just go to the web site of the publisher or a web book seller like amazon.com. Below are some of the books I'd appreciate help reviewing:

♦ "Handbook of Mathematical Models in Computer Vision", N. Paragios, Y. Chen, O. Faugeras (ed.s), Springer, 2006
♦ "The Geometry of Information Retrieval", K. van Rijsbergen, Cambridge University Press, 2004
♦ "Applied Combinatorics on Words", M. Lothaire, Cambridge University Press, 2005
♦ "Information Theory, Inference, and Learning Algorithms", D. J. C. MacKay, Cambridge University Press, 2003
♦ "Prediction, Learning, and Games", N. Cesa-Bianchi, G. Lugosi, Cambridge University Press, 2006
♦ "Graph-Theoretic Techniques for Web Content Mining", A. Schenker, et al., World Scientific, 2005
♦ "Rippling: Meta-Level Guidance for Mathematical Reasoning", A. Bundy, et al., Cambridge University Press, 2005

Please email me at *logorman@avaya.com*,

Larry O'Gorman, IAPR Newsletter editor

Conference Planner

NOTE: This is not an exhaustive list of conferences. It is a list of conferences sponsored or endorsed by IAPR plus additional conferences that have been brought to the attention of the editor. The *IAPR web site* has more up-to-date information about *IAPR conferences* and a link to USC's Institute for Robotics and Intelligent Systems list of *Computer Vision Conferences* (L. O'Gorman, ed.)

	2006		
S+SSPR 2006	*International Workshops on Statistical, Syntactical and Structure Pattern Recognition (S+SSPR 2006) 6th International Workshop on Statistical Techniques in Pattern Recognition (SPR 2006) 11th International Workshop on Structural and Syntactic Pattern Recognition (SSPR 2006)*	Hong Kong	17-19 Aug 06
ICPR 06	*18th International Conference on Pattern Recognition*	Hong Kong	20-24 Aug 06
EVA-Vienna 2006	*Digital Cultural Heritage—Essential for Tourism*	Vienna Austria	27-30 Aug 06
IMVIP 2006*	*Irish Machine Vision and Image Processing Conference*	Dublin City University, Ireland	30 Aug-1 Sep 06
ANNPR 2006	*2nd IAPR International Workshop on Artificial Neural Networks in Pattern Recognition*	Ulm, Germany	31 Aug-2 Sep 06
BMVC 2006*	*17th British Machine Vision Conference*	Edinburgh, Scotland	4-7 Sep 06
EUSIPCO2006*	*14th European Signal Processing Conference*	Florence, Italy	4-8 Sep 06
AECRIS 06	*Atlantic Europe Conference on Remote Imaging and Spectroscopy*	Preston, UK	11-12 Sep 06
IWMCRCS 2006	*International Workshop on Multimedia Content Representation, Classification and Security*	Istanbul, Turkey	11-13 Sep 06
IWFHR 10	*10th International Workshop on Frontiers in Handwriting Recognition*	La Baule, France	23-26 Oct 06
DGCI 06	*Discrete Geometry for Computer Imagery*	Szeged, Hungary	25-27 Oct 06
CIARP 2006	*11th Iberoamerican Congress on Pattern Recognition*	Cancun, Mexico	14-17 Nov 06
AVSS 2006*	*IEEE International Conference on Advanced Video and Signal-based Surveillance*	Sydney, NSW, Australia	22-24 Nov 06
	2007		
AND 2007	*Workshop on Analytics for Noisy Unstructured Text Data Held at: IJCAI 2007 International Joint Conference on AI*	Hyderabad, India	6-8 Jan 07
MVA 2007	*10th IAPR International Conference on Machine Vision Applications*	Tokyo, Japan	16-18 May 07
PRIP 2007	*9th International Conference on Pattern Recognition and Information Processing*	Minsk, Belarus	22–24 May 07
SCIA 2007	*15th Scandinavian Conference on Image Analysis*	Aalborg, Denmark	10-3 Jun 07
AIPR-2007*	*2007 International Conference on Artificial Intelligence and Pattern Recognition*	Orlando, Florida, USA	9-12 Jul 07
CIVR 2007	*6th International Conference on Image and Video Retrieval*	Amsterdam, Netherlands	18-20 Jul 07
ICDAR 2007	*9th International Conference on Document Analysis and Recognition*	Curitiba, Parana, Brazil	23-26 Sep 07
	2008		
ICPR 08	*19th International Conference on Pattern Recognition*	Tampa, Florida, USA	8-11 Dec 08
Highlighting indicates that paper submission deadline has not yet passed.			