

IAPR



Newsletter

Volume 30, Number 1
January 2008

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ICPR 2008 Call for Papers Page 26

Submit your papers! The deadline is 8 April 2008. Then, start getting ready for ICPR 2008 in Tampa, Florida!

Call for Nominees: K-S Fu Prize Page 27

The deadline is 30 April 2008. Nominations are being accepted for the K-S Fu Prize that will be awarded at ICPR 2008.

Call for Nominees: J.K. Aggarwal Prize Page 28

The deadline is 31 May 2008. Nominations are being accepted for the J.K. Aggarwal Prize that will be awarded at ICPR 2008.

Of Interest..... Page 29

- * TPAMI is taking applications for Editor-in-chief.
- * Contact Larry O'Gorman for free books!
- * Check out the Calls for Submissions to the Journal of Pattern Recognition Research (JPRR) and to a Special Issue of the Journal of Visual Languages and Computing on Multimodal Biometric Systems.

Letters to the editor Page 31

Bob Fisher sent in an email to introduce ground-truth labeled video sequences with interacting groups with a link to the BEHAVE web site.

Conference Planner Page 32

Chart of some upcoming IAPR and non-IAPR conferences of interest to the IAPR community.

Calls for Papers

ICISP 2008

*International Conference on
Image and Signal Processing*
Cherbourg-Octeville, France
Deadline: January 25, 2008
July 1-3, 2008

AMDO 2008

*V International Conference on
Articulated Motion and Deformable Objects*
Puerto de Andratx, Mallorca, Spain
Deadline: February 22, 2008
July 9-11, 2008

DAS 2008

*8th International Workshop on
Document Analysis Systems*
Nara, Japan
Deadline: March 1, 2008
September 17-19, 2008

CIARP 2008

13th Iberoamerican Congress on Pattern Recognition
Havana, Cuba
Deadline: March 31, 2008
September 9-12, 2008

EVA VIENNA 2008

*IAPR-TC19 Workshop on
Computer Vision for Cultural Heritage*
Vienna, Austria
Deadline: April 7, 2008
August 25-28, 2008

ICPR 08

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

PRIB 2008

*3rd IAPR International Conference on
Pattern Recognition in Bioinformatics*
Melbourne, Australia
Deadline: April 15, 2008
October 15-17, 2008

King-Sun Fu Prize 2008

*To be presented at the 19th International Conference on
Pattern Recognition (ICPR 08)*
Tampa, Florida, USA
Deadline: April 20, 2008
December 8-11, 2008

J.K. Aggarwal Prize 2008

*To be presented at the 19th International Conference on
Pattern Recognition (ICPR 08)*
Tampa, Florida, USA
Deadline: May 31, 2008
December 8-11, 2008

S+SSPR 2008

*Joint IAPR International Workshops on
Structural and Syntactic Pattern Recognition
and
Statistical Techniques in Pattern Recognition*
Orlando, Florida, USA
Deadline: May 4, 2008
December 4-6, 2008

ICDAR 2009

*10th International Conference on
Document Analysis and Recognition*
Barcelona, Spain
Deadline: January 12, 2009
July 26-29, 2009

Call for Submissions

IAPR Newsletter

*Articles, announcements, book reviews,
conference and workshop reports*

Contact the editor: logorman@avaya.com

Deadline: March 27 2008

IAPR 
Newsletter

Published in association with the IAPR website, www.iapr.org

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Feature Article

The (Frustrating) State of Peer Review

By [Lawrence O'Gorman](#)

Avaya Labs, Basking Ridge, NJ, logorman@avaya.com

I've been meaning to write this article for a long time. As an author of technical papers, every time I receive fewer than 3 reviews of one of my submissions, I wonder just how many people were requested to perform the reviews before this minimal number came through in the end. As an associate editor who has served on several editorial boards, every time a request for review is declined or ignored, I wonder if that person is pulling his or her reviewing weight with respect to their own submissions and also with respect to how often this person takes advantage of the whole system of peer reviewed literature. As a program committee member for conferences and workshops, every time I am inundated with from 5 to 20 submissions to be reviewed in a very short time, I wonder why more people aren't sharing this responsibility.

Let me step back a moment to explain, for those who don't know, how papers find their way into journals and conferences. The world of science is built on the foundation of sharing information. The traditional way to do this has been through peer-reviewed scientific publications. (I will not discuss the merits of informal publication through blogs, email, and other non-peer-reviewed publications.) What "peer-review" means here is that, for a submitted article to be published, it must pass the important hurdle of being read and recommended for publication by a number of other knowledgeable people in the field of the submission.

After an author submits a paper to Journal X, the process is the following. The editor-in-chief looks at the paper and decides which of the editorial board members is best qualified to oversee its review. That associate editorial board member then chooses a number of reviewers. The choice of reviewers can be made in several ways. The editor might know one or more

experts. Paper references can be scanned to learn other authors in the field. Or, the editor can make use of one of the sophisticated web tools available to publishers today that can access potential reviewers by name, field of expertise, past reviewing for the journal, etc. Through any of these means, reviewers are chosen. The typical minimum is 3. These reviewers are contacted through email. Some may decline, in which case more reviewers are chosen. The reviewers are typically asked to complete the review in 6-8 weeks. When the reviews are received, the associate editor reads them and decides what to advise: the paper can be rejected, accepted, or requested to be revised and resubmitted—in this latter case, the review process is performed again.

There are some differences for a conference submission as compared to that described above. Because of time constraints—time from receipt to accept/reject might be as little as a month—often only program committee members perform the reviews. A minimum of 2 reviews might be acceptable. There is usually no option for "revise and resubmit"; only accept or reject; though perhaps "accept with suggested revisions" is also an option.

So, what is wrong with peer review? Let me first say that this article can be described as only a "flame", that is, I reveal my frustrations, but I don't know the remedies or alternatives. In fact, as frustrating as some aspects of peer review have been to me (and I'm sure to many other authors, reviewers, and editors), the system ultimately works well for readers of these papers. This is because the quality of papers directly correlates with the quality of the peer review process — even as it is today.

My main complaint is a burning suspicion that the task of

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reviewing is not shared fairly. By fairly, I mean that I think there are an awful lot of authors out there who are not pulling their reviewing weight. It's easy to calculate a fair "reviewing weight". If an author submits n papers per year, then at a 3-reviewers per submission rate, that author should be reviewing $3n$ papers. We can complicate this a bit by saying that a paper submitted by co-authors reduces the reviewing burden. For example, if author A is a co-author for 3 publications per year, and the average authors per paper is 3, then author A should review $3/3=1$ paper that year. (This assumes the co-authors will also review their share, so beginning graduate students without adequate knowledge for reviewing do not count.)

I don't have general statistics on authors not pulling their weight. It's understandable that all of us will have to decline to perform a review at some times due to other commitments. However, if the reason is that the prospective reviewer is too busy writing more of his or her own papers to review others' papers, then I'd say this is an example of an imbalance of the reviewing load. Table 1 shows some reviewing statistics. This is a small sampling of reviews requested for IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), and I make no claims that this represents broader statistics for TPAMI or any other journal. The table shows that about 16% of requested reviewers decline immediately upon request. Of the 84% who agree to perform a review, only 74% actually complete it. Of all requested reviewers, the percentage of completed reviews is only 62%. What this means is that, for every paper needing at least 3 completed reviews, $3/0.62 = 4.8$ reviewers must be requested. If these statistics are representative, editors should be requesting about 5 reviews per paper to likely receive 3.

Table 1 Review statistics for a small sample of TPAMI submissions.

	Requested	Declined	Agreed	Completed
number	77	12	65	48
percentage		15.7	84.4	62.3 (of requested) 73.8 (of agreed)

Let's consider other reasons a prospective reviewers might decline. One is that they do not have expertise in the exact field of the paper. I suggest that this explanation is valid only up to a certain point. If the field mismatch is large, this is legitimate. However, if reviewers decline because they are not doing extremely similar work to the submission, then this may be more of an excuse than a valid reason. I say this because of the following points. 1) The paper has at least 3 reviewers, so the complement of each of these can provide adequate coverage of the paper, despite less than 100% expertise overlap of each. 2) Although a prospective reviewer may not have worked on the same problem, any good scientist should know the fundamentals of technical experimentation and publication, and so can assess the clarity of writing, depth of background material, quality of experimentation, and soundness of conclusions. 3) Most review forms have a space for reviewers to enter how well acquainted they are with the field, so the editor can take into account this when assessing the review.

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Another frustration is the following. Consider a technical field, XYZ. This field is small, having only 10 or so researchers who publish, and thus who are visible to review submissions. When a paper is submitted in this field, the editor finds 3 XYZ-experts to review it. Because these few people are reviewing papers within their own small group, several problems can occur. A minority of researchers in XYZ who approach a problem differently may never have their work accepted by the status quo majority. Alternatively, if the submitting authors are respected “incumbents”, any submission regardless of merit might gain publication acceptance by group members/reviewers. Indeed, a recent article in Science Magazine [1] recognized that, “Teams publishing in high-impact journals have a high fraction of incumbents.” However, this article goes on to say, “The temptation to work mainly with friends will eventually hurt performance.”

But I think the worst consequence of peer review in this small XYZ community is the following. The few researchers always accept other submissions in the field because they believe their field is worthy of publication. This might be so, but a small field can indicate one of the following: 1) the field is new and set to grow, 2) the field has shrunk and these are the remaining researchers in a field perhaps past its time, 3) the field size remains static over many years, indicating little interest in it outside of the small community. I suggest that options 2 and 3 are problems that inbred peer review will not reveal, thus papers will continue to be published in broad-audience publications despite very small interest in those papers.

As I’ve said, despite these problems, I believe most good work is published and most peer-reviewed published work is good. If you disagree with this statement or any frustrations I’ve shared, or just wish to add other comments, please send email and – with minimal peer review – these opinions can be published and shared with other readers.

References:

[1] Albert-Laszlo Barabasi, “Network Theory – the Emergence of the Creative Enterprise,” Science Magazine, Vol. 308, 29 April 2005, pp. 639-641.

News from the IAPR EXECUTIVE COMMITTEE

By [Denis Laurendeau](#)

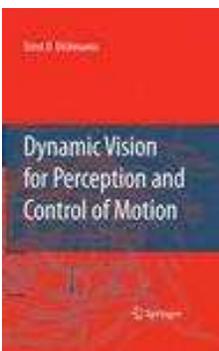
These last months have been very busy for the ExCo. A major task, that has been completed, was to set up the various committees. Again this time, the response from members of the pattern recognition community has been very positive, and [IAPR committees](#) will be constituted by very qualified individuals.

The ExCo is also working on agreements with publishers that would bring more services to the IAPR community. More details will be provided to members as the discussion progresses.

The IAPR website is still being updated after progressive migration to a new server and release of the new site in September, 2007. A lot of work has been done to set up the new site, but more work still needs to be performed to complete the migration and make the site stable. In cooperation with IAPR Standing Committees, the ExCo has planned to reorganize a lot of material that was spread out everywhere on the old site and to make this information more easy to find and more coherent with current IAPR activities, committees, and services. This reorganization requires a significant amount of work but, once completed, should lead to a better integrated bulk of material.

Since quorum was not reached for the Governing Board ballot on the Statement of Ethics, the ballot will be reinitiated in early January. For the sake of efficiency, it will be combined with another ballot.

BOOKSBOOKSBOOKS



Dynamic Vision for Perception and Control of Motion

by Ernst D. Dickmanns
Springer, 2007

Reviewed by: [Antonio-Jose Sanchez-Salmeron](#) ,
Universidad Politécnica de Valencia

Dynamic Vision for Perception and Control of Motion by Professor Ernst D. Dickmanns is a long summary (474 pages) about the author and his colleagues' experience (from 1985 until 2005) on autonomous road-following vehicles.

This book formulates a general approach to dynamic vision for researchers and also for newcomers interested in visual perception. Dynamic vision systems have a broad basis. It is hard for newcomers to handle all the ingredients necessary in this field. This book presents both the theoretical and practical ingredients required in a general approach.

Hybrid architectures, applied on mobile robots, combine low-level reactive behaviours with higher level deliberation and reasoning. This book defines a hybrid approach applied to autonomous road-following vehicles based on real time machine vision. Active subjects with capabilities for perception and control of behaviours are at the core of this approach. Hybrid architectures are usually modelled as having three layers; one deliberative, one reactive and one middle layer. This book is mainly focused on the reactive and middle layers.

The aim of this book is described by the following, as taken from the book:

The sense of vision for autonomous systems is considered an animation process driven by the analysis of image sequences. Starting from bottom-up feature extraction, tapping knowledge bases in which generic knowledge about 'the world' is available leads to the 'mental' construction of an internal spatiotemporal (4-D) representation of a framework that is intended to duplicate the essential aspects of the world sensed.

This internal (re-)construction is then projected into images with the parameters that the perception and hypothesis generation system have come up with. A model of perspective projection underlies this 'imagination' process. With the initial internal model of the world installed, a large part of future visual perception relies on feedback of prediction errors for adapting model parame-

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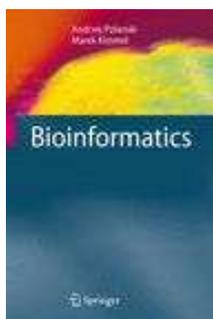
ters so that discrepancies between prediction and image analysis are reduced, at best to zero. Especially in this case, but also for small prediction-errors the process observed is supposed to be understood.

The knowledge elements contain the temporal aspects using differential equation constraints for temporal evolution. For example, manoeuvres are characterized by specific control time histories leading to finite state transitions. This manoeuvre knowledge allows decoupling behaviour decision from control implementation without losing the advantages at both ends. Minimal delay time and direct feedback control based on special sensor data are essential for good control actuation. On the

other hand, knowledge about larger entities in space and time (like manoeuvres) are essential for good decision-making taking into account environmental conditions.

These vision and control topics, applied to autonomous road-following vehicles, are discussed in depth in this text, accompanied by mathematical equations and figures. The text is divided into 15 chapters. It starts with four chapters giving a general introduction to dynamic vision and providing the basic knowledge representation schemes underlying the 4-D approach developed. The following two chapters, chapters 5 and 6, cover procedural knowledge enabling real-time visual interpretation and scene understanding. Chapters 7 to 14 encompass system integration for recognition of roads, lanes and other vehicles. Chapter 15 gives some conclusions and an outlook on chances for future developments. And finally, three appendices provide more details on 'Contribution to Ontology for

BOOKSBOOKSBOOKS



Bioinformatics

by Andrzej Polanski and Marek Kimmel
Springer, 2007

Reviewed by: [Scott F. Smith](#),
Boise State University

This book is written from the point of view of applying the techniques of Computational Statistics to applications areas in Bioinformatics. The authors are university researchers with backgrounds in Statistics and Computer Science and readers with similar backgrounds desiring to tackle problems in the biological sciences are the ones most likely to benefit from reading this book.

The book is divided into two parts, nearly equal in size. The first part is a solid review of mathematical and computational methods. This part focuses on those methods that are frequently used in many common bioinformatics applications. While most of this material will be very familiar to most readers, it is useful to have the details compiled concisely into a single place. Topics covered in this section include: maximum likelihood, statistical testing, Markov models, sorting, string searches, classification, clustering, optimization, and dynamic programming.

The second part, Applications, is the real reason for reading this book. Bioinformatics is a very broad field and any attempt at comprehensive coverage of topics would result in many hundreds of pages of superficial discussion. The authors have chosen to focus on a few of the most commonly used and very well researched topics. These topics are drawn from: sequence alignment, phylogenetics, genomics, proteomics, RNA structure, and microarray analysis. With a few exceptions, the most relevant aspects of these top-

ics are covered at a level of detail and length of discussion that seem appropriate.

The chapter on sequence alignment has a good presentation of the material involved in optimal pair-wise sequence alignment using dynamic programming as exemplified by the Smith-Waterman algorithm. However, by far the most commonly used pair-wise alignment method is the suboptimal, but much faster, BLAST algorithm. Many other sequence analysis tasks in bioinformatics use the basic heuristics underlying BLAST to make the algorithms fast enough to be useful. It seems that devoting a few pages to these heuristics would have been helpful, even if the ideas do not have the mathematical beauty of dynamic programming. The concept of multiple alignment is briefly addressed in the final section of the chapter, but without enough detail to do anything with it. This is a shame, since most of the really interesting and difficult problems in sequence alignment involve multiple alignment.

The chapter on RNA is much too short and appears to be an afterthought. The entire topic of non-coding RNA gene search is missing. The use of covariance models for gene search would seem to have fit well here since they are an extension of hidden Markov models which are discussed at length elsewhere in the book. The coverage of RNA secondary-structure prediction using the Zuker algorithm is adequate, but the sig-

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nificant difficulties associated with pseudoknots, while mentioned, are not adequately dealt with.

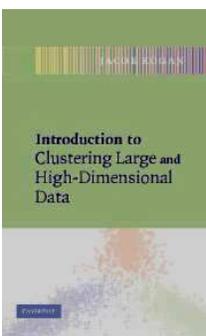
The book ends with a chapter on Internet resources. This chapter is woefully inadequate and would have been better left out. In general, it seems that the best place for references to Internet resources is on the web itself where the lack of space limitations allows one to be comprehensive and where the links can be added, updated, or removed as the resources evolve.

The book does have end-of-chapter exercises. These are fairly well developed in the first part of the book (mathematical and computational foundations part). However, the exercises in the second part generally do not have very detailed descriptions. Use of these problems for graded homework assignments would be difficult without the instructor adding much additional detail as to exactly what is expected.

One disappointing aspect of this book is that it was not proof-read as thoroughly as one might like. There are numerous instances of spelling errors, incorrect punctuation, and incorrect words (such as then/than substitutions). These generally do not keep the information being conveyed from getting across, but it is definitely distracting.

Overall, this is a useful book for computationally minded individuals who are looking to move into the bioinformatics field. As a textbook, it would be OK (but there are also very few good alternatives). For biologists wanting to move into the computational part of the field, this book would likely be a very hard read since there is a lot of presumed specific background knowledge associated with the statistical and computer science communities.

BOOKSBOOKSBOOKS



Introduction to clustering large and high-dimensional data

by Jacob Kogan
Cambridge University Press, 2007

Reviewed by: Nicolas Loménie

Although the book is entitled *Introduction to clustering large and high-dimensional data*, it focuses on the k-means numerical scheme and text mining applications. At first glance, one might consider it as a challenge to write an interesting 200 page-long book with 149 references on such a narrow subject as the k-means algorithm. However, in the course of my research activity, I have come to practice the k-means scheme on stereoscopic data for visual computing in many more ways than those generally accepted in the computer science community. Arguing with colleagues—experts in data mining and classification areas—I have claimed that the k-means scheme is too often reduced to merely its basic, primal formulation as a quadratic distance-based algorithm used to discover structures. To me, the k-means scheme is a much more general and subtle scheme. And that is exactly the topic of this book.

This book consists of 11 chapters. Each chapter ends with thorough bibliographic notes and references. Chapter 1 introduces the topic of the book: clustering of sparse data in high-dimensional space, especially for document retrieval. Chapter 2 deals with the classic formulation of the quadratic k-means algorithm in Euclidean spaces. Chapter 3 is a brief chapter dedicated to the BIRCH algorithm that operates on large amounts of data, but where there are limitations on the amount of memory space. Chapter 4 deals with the spherical k-means algorithm, which is an adaptation of the k-means scheme to

a particular space (called hypersphere) embedded in the Euclidean space and usually adopted in document retrieval applications. Chapters 5 to 8 broaden the classic quadratic k-means scheme to various formulations, demonstrating that this numerical scheme has broader applicability than is usually depicted in the scope of lectures or even research papers. Chapter 9 moves on to the issue of the assessment of clustering results. Finally, Chapters 10 and 11 give an interesting appendix on optimization and linear algebra backgrounds and solutions to selected problems/exercises raised all along in the preceding chapters.

The author is a professor in the department of Mathematics at the University of Maryland, Baltimore. Therefore, the book is a formal treatment of the topic with numerous definitions, theorems and lemmas. It also provides a lot of numerical experiments and discussions with simple examples to clarify the behaviors of this stimulating scheme. Hence, this book may serve as a useful reference for scientists and engineers who need to understand the concepts of clustering in general and/or to focus on text mining applications. It is also appropriate for students who are attending a course in pattern recognition, data mining, or classification and are interested in learning more about issues related to the k-means scheme for an undergraduate or master's thesis project. Last, it supplies very interesting material for instructors.

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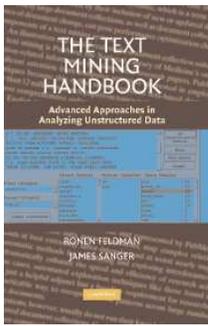
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To improve the second edition, I would suggest :

- ◆ to give many more pseudo-code, ready-to-implement algorithms; or, at least, to make them more visible in the text.
- ◆ to provide many more references to the pattern recognition and computer science communities that have been facing these issues as well : a book like that of J. Bezdek et al. about fuzzy clustering, for example.

From a general point of view, it is interesting to note that, even in such a narrow scientific area, the community does not use a common vocabulary; for instance, term `fuzzy` is hardly written once in this book!

BOOKSBOOKSBOOKS



The Text Mining Handbook

by Ronen Feldman and James Sanger
Cambridge University Press, 2007

Reviewed by [L. Venkata Subramaniam](#)

Text mining today covers a broad range of topics. This handbook gives a high-level perspective of text mining by covering many of the important topics. The handbook is aimed at a wide spectrum of audiences comprising students, academic researchers and professional practitioners.

The first two chapters of the book provide an introduction to text mining and the operations involved in doing text mining. Chapter I presents text mining definitions. It also gives the general architecture of a text mining system. Chapter II presents core text mining operations. This chapter covers various pattern-discovery algorithms.

The next six chapters present basic preprocessing techniques in text mining. Chapter III presents an extremely brief introduction to linguistic preprocessing techniques in text mining. Chapter IV covers text categorization. Chapter V looks at text clustering. Chapter VI covers information extraction (IE). These chapters cover the main definitions and techniques. Chapter VII covers probabilistic models for information extraction. Chapter VIII presents the applications of the probabilistic models presented in the previous chapter to different IE tasks. In particular, hidden Markov models, stochastic context free grammars, and maximal entropy are covered from the mathematical perspective, and their application to IE is given in these two chapters.

The next two chapters cover the user interface part of text mining systems. Chapter IX looks at aspects related to browsing large text collections. Chapter X covers visualization approaches to view the text document collections and the results obtained from various text mining operations on document collections.

In Chapter XI the topic of link analysis is covered. In this chapter, techniques to analyze large networks of entities are presented. The work in the first eight chapters talked about how the entities can be extracted from the text. In this chapter the focus is on finding specific patterns within the network of entities.

Finally, in Chapter XII, real-world applications are presented. Text mining systems in the areas of corporate finance, patent research, and life sciences are presented.

The Appendix explains DIAL (declarative information analysis language). This is a dedicated information extraction language.

There are notes at the end of each chapter that discuss related work. This is very helpful in placing the work of the chapter in context and for looking up related work to gain better understanding. There is a common bibliography at the end of the book.

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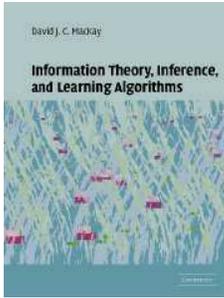
One topic that I think the authors should have but didn't cover at all is text mining in the presence of noise. Real world user-generated text data is noisy and today it is important to deal with it. Blogs, newsgroup postings, emails and other such spontaneously written text found in abundance is very noisy. Further, there is also deliberately added noise in the form of spams and splogs. From my perspective, as a text mining practitioner, I would have liked to see some coverage of this. But that is something for the authors to add in the next edition. .

The authors in their preface have mentioned that they have tried to blend together theory

and practice by providing many real-life scenarios that show how the different techniques are used in practice. I think they have largely succeeded in doing that. They have addressed the needs of both developers and users of text mining systems.

My recommendation to the readers is to buy the book. This book is definitely worth having in your book shelf as a handy reference.

BOOKSBOOKSBOOKS



Information Theory, Inference, and Learning Algorithms

By David J. C. Mackay

Reviewed by [Jason Dowling](mailto:j.dowling@ieee.org) (j.dowling@ieee.org)

In this 628-page book, Professor David Mackay, from the University of Cambridge, has combined information theory and inference in an entertaining and thorough manner. The book covers many topics: teaching roadmaps are provided for its use as a course text for pattern recognition, information theory and neural networks; introductory information theory, error correcting codes; and machine learning. It does assume a certain level of knowledge (probably first or second year mathematical statistics and calculus would be sufficient).

One of the best features of this book is the author's web site at www.inference.phy.cam.ac.uk/mackay/itila/. Not only is the full text available for download, but also there are additional exercises, chapters, errata, software and other interesting topics (even a comparison with Harry Potter). It also introduced me to the open-source Matlab-like Octave language (available from www.gnu.org/software/octave/).

Information Theory, Inference, and Learning Algorithms (ITILA) consists of 50 short chapters: an introductory section followed by seven main parts. The first three introductory chapters present an overview of information theory (focusing on error correcting codes), probability, entropy and inference. The last of the introductory chapters discusses the use of Bayes theorem for inference and provides a comparison with traditional sampling theory statistics. If you are after

an understanding of ANOVA or linear regression, this book is not a good choice. The chapter concludes with the sentence "The p -values and 'significance levels' of classical statistics should be treated with *extreme caution*. Shun them! Here ends the sermon!"

The first main part of the book, "Data compression", covers the source coding theorem (measuring information content and its application to lossy compression), symbol codes (lossless compression, including Huffman coding), stream codes (arithmetic codes and the Lempel-Ziv algorithms), and concludes with a short chapter on codes for integers.

Part two focuses on noisy-channel coding. Topics covered include dependent random variables (entropy and mutual information), communication over a noisy channel, proofs for the noisy-channel coding theorems, and error-correcting codes (capabilities and Gaussian channels).

The third part of the book explains hash codes and collision resolution, binary codes (Hamming distance, perfect and dual codes), proof of the source coding and noisy channel coding theorems, data compression by linear hash codes, message passing, communication over constrained noiseless channels, and language modeling (crosswords and code-breaking). The final chapter in this part (entitled, "Why have sex?") is

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an entertaining and interesting discussion on information and evolution.

The longest part of the book is the fourth, which is focused on probabilities and inference. The first chapter presents a good explanation of K-means clustering. This is followed by chapters on exact inference by complete enumeration, maximum likelihood and clustering, useful probability distributions (binomial, Poisson and exponential), exact marginalization (including trellises and graphs), Laplace's Method, Occam's razor, Monte Carlo Methods, Ising models, variational methods, independent component analysis (ICA), decision theory, and finally a chapter comparing Bayesian inference and sampling theory.

In part five, Mackay moves on to neural networks. After an introductory chapter, the author explains the single neuron as a classifier and its capacity, learning as inference, Hopfield networks, Boltzmann machines, supervised learning in multiplayer networks, Gaussian processes, and finally presents an interesting detour into image deconvolution.

Part six covers sparse graph codes. Three families of error-correction codes are described (low-density parity-checks codes, turbo codes, and repeat-accumulate codes), followed by a chapter on digital fountain codes for erasure correction.

The final part of *ITILA* are the appendices. An excellent glossary of notation is included, followed by an appendix on phase transitions in physics, and finally an appendix describing finite theory, eigenvalues and eigenvectors, and, lastly, perturbation theory.

I thought this book was excellent: carefully written with good illustrations and appropriate doses of humor. I did not notice any editing errors. I liked the introductions to chapters, which described what I should have read previously. And I also liked the margin notes, which offered useful comments, and links to previously discussed topics. Exercises were provided as an integral part of the text and presented a continuous development and explanation of the chapter contents. Many questions have well-written answers in the text. Having said that, Chapter 15 completely consists of questions without answers!

I think this book would be very useful for students studying computer science and electrical engineering, or for anyone interested in information theory, machine learning, signal processing, data mining, pattern recognition, or cognitive science. But don't take my word for it: download a free copy for your laptop before buying a copy for your bookshelf!

Conference Report: [ICIAP 2007](#)

14th International Conference on Image Analysis and Processing

Palazzo Ducale, Modena, Italy
10-14 September 2007

General Chair: Rita Cucchiara

Program Chair: Anrea Prati

Report prepared by the ICIAP 2007 Chairs

The International Conference on Image Analysis and Processing (ICIAP) is one of the oldest (28-years-old) conferences on computer vision and image processing. The long-lasting success of ICIAP relies on the perfect mix between the international high-quality papers and presentations and the excellent locations and conference organizations.

The 2007 edition of ICIAP was held in Modena, Italy, at the magnificent location of the Military Academy, Europe's oldest academic institution for the military army. Our choice of location was dangerous because of the chance of unpredictable closure of the Academy in the case of a sudden emergency or security issue and the strict behavioral rules. However, ICIAP 2007 was held at the magnificent 17th-century Duke Palace, headquarter of the Military Academy, and, in the end, the exceptional participation (over 200 registered participants) to ICIAP 2007 demonstrates that we were right in our choice!

From the scientific point of view, differently from previous editions, ICIAP 2007 was organized into five main tracks: a central track, addressing



Palazzo Ducale, Modena, Italy

the **Theory of Image Analysis and Processing**, and four complementary tracks on hot topics, namely **Surveillance and Security**, **Multimedia**, **Industrial**, and **Human-centred applications**. The last track was further divided into **Biometry** and **Medical Imaging** subtracks.

The main conference consisted of 49 regular papers, presented in non-overlapped oral sessions, and 89 poster papers. They were selected from among about 250 papers after a long and rigorous reviewing phase; thanks to 10 Area Chairs, 83 members of the Program Committee and other experts who contributed to the reviews.

A great part of the success of ICIAP 2007 is probably due to the excellent invited speakers. The first opening speaker (sponsored by IAPR) was **Prof. Rama Chellappa** with a talk entitled "**Looking for Patterns in Video**". Prof. Chellappa is well known as past Editor-In-Chief of "IEEE Transactions on Pattern Analysis and Machine Intelligence" as well as for many seminal contributions to the field of pattern recognition and computer vision. He is currently Minta Mar-

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tin Professor of Engineering at University of Maryland, College Park, MD (USA). The second day, two invited speeches were given: “**From Image Analysis to Content Extraction: Are We There Yet?**” by **Prof. Tsuhan Chen** (Carnegie Mellon University, USA) and “**Surveillance on Graphs**” by **Prof. Stan Sclaroff** (Boston University, USA). The last conference day **Prof. Prabir Bhattacharya** from Concordia University (Canada) gave a talk on “**Iris Recognition Using Genetic Algorithm and Support Vector Machine**”.

This year ICIAP’s main conference was organized in conjunction with several **tutorials** on the first day and **two satellite workshops** on the last day. The workshop Video and Multimedia Digital Libraries VMDL (co-sponsored by EU NoE DELOS and EU NoE MUSCLE, and Fondazione Rinascimento Digitale) started on the evening before the last day with the special invited talk of **Edward Chang**, Director of Research at Google China and treated the topic of video and multimedia digital libraries. The other workshop Computational Color Imaging Workshop CCIW was endorsed by IAPR (see *Workshop Report in the October, 2007, issue of the IAPR Newsletter* [\[html\]](#) or [\[pdf\]](#)).

Last, but not least important, ICIAP 2007 included two social events: the welcome cocktail on Tuesday consisted in a guided visit at Ferrari Gallery in which the attendees had the opportunity to taste traditional food while walking between dream Ferrari cars; and the gala dinner which was held in the “Salone d’Onore” (ballroom) of the Duke Palace.

The next ICIAP in 2009 will be held in the surroundings of Salerno (in the south of Italy) and will be organized by Prof. Mario Vento of University of Salerno. To my friend Mario my best wishes for a successful event!

Proceedings of ICIAP2007
are available from the
IEEE Computer Society
[ISBN 978-0-7695-2877-9](#)



Workshop Report: [PRIB 2007](#)

2nd IAPR International Workshop on Pattern Recognition in Bioinformatics

1-2 October 2007
Grand Plaza Park Hotel, Singapore

General Co-Chairs:
[Jagath C. Rajapakse](#)
[Raj Acharya](#)

Program Co-chairs:
[Bertil Schmidt](#)
[Gwenn Volkert](#)

Report prepared by [Jagath C. Rajapakse](#)

The second IAPR International Workshop on Pattern Recognition in Bioinformatics (PRIB 2007) was organized by the School of Computer Engineering and Bioinformatics Research Centre of Nanyang Technological University, Singapore.

The PRIB workshop/conference series are aimed at bringing together researchers, practitioners, and students from around the world to discuss applications of pattern recognition methods in bioinformatics to solve problems in life sciences. This is a major event of [IAPR-TC 20 Pattern Recognition for Bioinformatics](#) and provides a meeting venue for TC-20 members.

Workshop Summary Statistics

Total Number of Registrants = 97
IAPR member registrants = 11
Countries participated = 21
Number of papers received = 134
Published in the proceedings = 38
Oral presentations = 48
Poster presentations = 30

Bioinformatics is the marriage between computer science and biological sciences and aims at the discovery of new knowledge from life sciences data. The focus of TC-20 is to bring together pattern recognition modelers and life scientists to solve problems in bioinformatics. Over the past



Professor Bertil Anderson giving the opening address.

decade or so, there has been an increased interest in bioinformatics as computational experiments have led to a reduction in tedious and costly wet-lab experiments.

The opening address was given by Prof Bertil Anderson, Provost, Nanyang Technological University, Singapore. As Prof Anderson, one time chair of the committee for the Nobel Prize for biochemistry, pointed out, "It was only a decade or so ago that the idea that one could have life scientists and informatics researchers working together at the intersection of these disciplines was very unusual and experimental. Now, such is the dynamism and pace of change in the life sciences that bioinformatics has become an established and accepted discipline in its own right"

The workshop featured four keynotes: Prof. Nikhil

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Pal, Prof. Raj Acharya, Dr. Gary Fogel, and Dr. Glenn Tesler.

There were two parallel sessions of oral presentations and one poster session on each day of the workshop. Pattern recognition techniques that were discussed include: statistical, syntactic and structural approaches, neural networks, fuzzy techniques, genetic algorithms, Bayesian models and networks, data mining techniques, and their hybrids. The presentations represented the following applications of bioinformatics:

- bio-sequence analysis
- gene and protein expression analysis
- protein structure and interaction prediction
- signal and motifs detection
- systems biology, pathway analysis
- medical informatics
- bio-imaging

The papers presented orally at the workshop were published as a volume in the *Lecture Notes in Bioinformatics* by Springer and Supplementary Proceedings included the papers presented as posters.

A Special Issue on 'Pattern discovery from bioinformatics data' of IEEE Engineering in Medicine and Biology Magazine, including selected papers presented at the workshop will appear in 2008.



Mr. Anunchai Assawamakin receiving the IAPR Best Student Paper Award from General Chair Professor Jagath Rajapakse

The Best Paper Award and the Best Student Paper Award were sponsored by IAPR. In addition, five student Travel Awards and twenty Student Awards were given best on the merits of the papers presented at PRIB 2007.

IAPR Best Paper Awards

IAPR Best Paper Award

Tim Hohm, Eckart Zitzler, "Multicellular Pattern Formation: Parameter Estimation for ODE based Gene Regulatory Networks", ETH Zurich

IAPR Best Student Paper Award

Anunchai Assawamakin, Nachol Chaiyaratana, Saravudh Sinsomros, Prakarnkiat Youngkong, "Variable-Length Haplotype Construction for Gene-Gene Interaction Studies", Mahidol University, Thailand

**Proceedings of PRIB2007 are available in the
[Springer Lecture Notes in Computer Science Series, Volume 4774,](#)
[Sublibrary Lecture Notes in Bioinformatics](#)**

Conference Report: [CORES 2007](#)

5th International Conference on Computer Recognition Systems

22-25 October 2007
Wroclaw, Poland

Chairman:
Juliusz Lech Kulikowski

Local Chairman:
Marek Kurzyński

Report prepared by Michał Woźniak

The goal of the CORES series of conferences is the development of theories, algorithms, and applications of pattern recognition methods. These conferences always have served as very useful forum for the various groups working in different areas of pattern recognition to come together and help each other, keeping up with this active field of research.

CORES 2007 was organized by Prof. Marek Kurzyński and his team from Chair of Systems and Computer Networks at Wroclaw University of Technology. The conference was endorsed by International Association for Pattern Recognition (IAPR) and its Polish member society the Association for Image Processing, TPO. The beautiful city of Wroclaw, the number of experts, the casual atmosphere, and the social events led to educational and energetic talks and discussions at CORES 2007.

As usual, this conference contained the excellent mix of theory, algorithms, and applications of pattern recognition methods. There were several plenary papers that neatly summarized the work that has been done so far and discussed the gaps that need to be filled.

Invited talks were presented on topics of increasing importance in our modern world: At the beginning of the conference, its chair Professor Juliusz Lech Kulikowski in the presentation entitled "Structural image analysis based on onto-



Professor Zdzislaw Hippe discussed some aspects of medical diagnosis in an invited talk entitled "Synthesis of static medical images—an example of melanocytic skin lesions".

logical models" referred his work in which the structural approach to the pattern recognition is used. The next plenary paper was presented by Professor Zdzisław Hippe who talked about some aspects of medical diagnosis, i.e. about "Synthesis of static medical images- an example of melanocytic skin lesions". The next talk was given by Professor Ewa Piętka who presented very interesting aspects of "Computer aided image diagnosis". The last presenter Professor Andrzej Kasiński showed "The architecture of the face and eyes detection system based on cascade classifiers" which is very important in many human-machine interface tasks.

The talks and discussions of CORES 2007 gave the attendees an excellent overview of the work

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done in the field of pattern recognition methods as well as indicated new problems to focus on. Some of young presenters were awarded for their presentations: The first best presentation award went to J. Arturo Olvera-López for his work *Object selection based on clustering and border objects*. The second best presentation award went to Roland Kwitt for his work *Multi-directional multi-resolution transforms for zoom-endoscopy image classification*. The third best presentation award went to Joanna Marnik for her work *The Polish finger alphabet hand postures recognition using elastic graph matching*. Additionally, four distinctions were announced. You can find a complete [list of awarded presenters](#) at the CORES 2007 webpage.

Proceedings of CORES 2007
were published by
Springer Verlag in series
[Advances in Soft Computing](#),
[Volume 45](#)



Conference Report: [DICTA 2007](#)

Digital Image Computing: Techniques and Applications

Adelaide, Australia
3-5 December 2007

General chair:
[Murk Bottema](#)

Co-chair:
Nick Redding

Program Committee Chairs:

[Anton van den Hengel](#)

Nick Redding

[Anthony Maeder](#)

Roland Goecke

Report prepared by [Murk Bottema](#)

The 2007 edition of Digital Image Computing Technologies and Applications (DICTA) was held near Adelaide, South Australia, in the seaside community of Glenelg. DICTA is hosted by the Australian Pattern Recognition Society (APRS) and has been held approximately every other year in various cities in Australia and New Zealand. DICTA 2007 was the ninth DICTA conference.

DICTA 2007 comprised approximately 80 contributed papers and six keynote addresses and a dinner speaker. Just over a hundred delegates attended, approximately one fourth from outside Australia and New Zealand.

The keynote addresses reflected the major themes of the conference. Edwin Hancock of the University of York spoke on graph spectral methods for learning shape categories, and Maria Petrou of Imperial College continued on the theme of learning by presenting her work on the tower of knowledge for learning in computer vision. Core image and video processing was represented by keynote speaker Jan Flusser of the Institute of Information Theory and Automation, Czech Republic, who provided an overview talk on image fusion, and by Ian Reid of Oxford, who described methods for creating new views of a scene from video streams and augmenting video with computer graphics using real-time camera tracking.

Numerous applications of image analysis were presented ranging from well established areas such as face recognition and finger print analysis to more novel directions such as identification of swimming pools, classification of birds from shape, and the counting of sea stars. The single largest application field was to biology and medicine. Work here was represented by keynote speaker Michael Brady of Oxford who spoke on image analysis related to cancer and by Geoffrey McLennan of the University of Iowa who considered the vast integration of image analysis in the future of medicine under the banner of a new field called Eidomics. Both speakers emphasized the need for researchers in medicine and image analysis to work as a team.

DICTA 2007 was preceded by a [workshop on vision in human computer interaction \(Vis-HCI\)](#) held at the same venue on December 2. A session of contributed papers on Vis-HCI was included in DICTA to reinforce interaction between researchers in this area and general image analysis.

Due to a formal request and promised funding support from one of DICTA's major sponsors, it was decided at the APRS general meeting that DICTA would become an annual rather than biennial conference. The next conference in the series is thus expected to be held in Canberra in 2008.

Proceedings of DICTA 2007 were published by IEEE Computer Society ISBN 0-7695-3067-2

Conference Report: [PReMI '07](#)

2nd International Conference on Pattern Recognition and Machine Intelligence

18-22 December 2007
Kolkata, India

General Chair::
[S.K. Pal](#)

Program Chair:
[A. Ghosh](#)
[R.K. De](#)

Report prepared by The General Chair and Program Co-chairs

The objective of the Second International Conference on Pattern Recognition and Machine Intelligence (PReMI'07) was to present the state-of-the-art scientific results, encourage academic and industrial interaction, and promote collaborative research in pattern recognition, machine intelligence, and related fields, involving scientists, engineers, professionals, researchers, and students from India and abroad. Particular emphasis of PReMI'07 was placed on data mining, soft computing, bioinformatics, biometrics, video and image analysis as well as various upcoming pattern recognition/image processing problems.

The conference had one plenary talk, two key-note speeches and seven invited lecturers, all by very eminent and distinguished researchers from around the world. Professor S. K. Mitra (University of California, USA) delivered the Plenary Talk of the conference. Two key note speeches were given by Professors N. Nasrabadi (U.S. Army Research Laboratory, USA) and N. Zhong (Maebashi Institute of Technology, Japan). Invited talks were delivered by Professors V. D. Gesu (University of Palermo, Italy), S. B. Cho (Yonsei University, Korea), L. Bruzzone (University of Trento, Italy), A. Tepavcevic (University of Novi Sad, Serbia), G. Wang (Chongqing University of Posts and Telecommunications, China), B. Lovell (NICTA and The University of

Queensland, Australia), and M. Nachtegaele (Ghent University, Belgium). The conference had 12 contributory sessions and two poster sessions. It also had two days of pre-conference tutorial talks.

The conference had a very good response in terms of paper submission. It received 241 submissions from about 20 countries spanning six continents. Each paper was critically reviewed by experts in the field, after which 76 papers were accepted for inclusion in the proceedings. Finally the conference was attended by 60 registered participants from 11 countries, invited guests and a large number of students.

The conference proceedings of PReMI-07, containing rigorously reviewed papers, was published by Springer, Berlin, Heidelberg under the prestigious series of Lecture Notes in Computer Science (LNCS)(volume 4815). In this connection, a post-conference edited volume, tentatively titled "Machine Interpretation of Patterns: Image Analysis, Data Mining and Bioinformatics" (Eds. R. K. De, A. Ghosh and D. P. Mandal), is planned to be published from World Scientific Press, Singapore, containing a few chapters which are expanded versions of contributory papers of the conference and a few chapters contributed by some of the program committee

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members and invited speakers.

PReMI-07 had a special significance, as it coincided with the year of Platinum Jubilee Celebration of the Indian Statistical Institute (ISI). The Institute was founded on December 17, 1931 by Prof. Prasanta Chandra Mahalanobis, a great visionary and a great believer of interdisciplinary research integrating statistics with natural and social sciences.

Various professional sponsors and funding agencies (both national and international) came forward to support this event for its success. These include, DST Sponsored Center for Soft Computing Research at ISI, Kolkata; International Association of Pattern Recognition (IAPR); Web Intelligence Consortium (WIC); International Center for Pure

and Applied Mathematics (CIMPA), France; Yahoo! India Research & Development; and Philips Research Asia - Bangalore.

Proceedings of PReMI '07
are available in the
[Springer Lecture Notes in
Computer Science Series,
Volume 4815, Sublibrary
Image Processing, Computer
Vision, Pattern Recognition
and Graphics](#)

Call for Papers



The 19th International Conference on **PATTERN RECOGNITION**

December 8-11, 2008
Tampa Convention Center
Tampa, Florida USA
www.icpr2008.org



Technical Tracks

Computer Vision
Pattern Recognition:
Theory, Methods and Algorithms
Image, Speech and Signal Analysis
Multimedia and Video Analysis
Biometrics
Document Analysis
Bioinformatics and Biomedical Applications

GENERAL CHAIRS

M. Ejiri, R. Kasturi, G. Sanniti di Baja

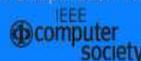
PROGRAM CHAIRS

R.P.W. Duin, D. Laurendeau, B. Lovell

Hosted by



In Cooperation With



ICPR 2008

www.icpr2008.org/

Call for Papers

ICPR 2008 is the nineteenth conference of the International Association for Pattern Recognition (IAPR).

ICPR 2008 will be an international forum for discussions on recent advances in the fields of **Computer vision, Pattern recognition (theory, methods and algorithms), Image, speech and signal analysis, Multimedia and video analysis, Biometrics, Document analysis, and Bioinformatics and biomedical applications.**

Important dates

Paper submission deadline: 8 Apr 08
Tutorial submission deadline: 5 May 08
Workshop submission deadline: 15 Jan 0

e-mail contact: Secretary@icpr2008.org

Call for Nominees

King-Sun Fu Prize

The International Association for Pattern Recognition (IAPR) is pleased to announce a call for nominations for the [King-Sun Fu Prize](#) in honor of the memory of Professor King-Sun Fu.

Professor Fu was instrumental in the founding of IAPR, served as its first president, and is widely recognized for his extensive contributions to the field of pattern recognition.

**Nominations deadline:
30 April 2008**

**Nomination and endorsement
forms can be downloaded
from the [KS Fu Prize](#)
page of the IAPR web site.**

This biennial prize is given to a living person in the recognition of an outstanding technical contribution to the field of pattern recognition, and consists of a cash amount and a suitably inscribed certificate. The prize is derived from interest income from a special fund set up for this purpose.

The prize recipient shall be selected by the Prize Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by endorsement of at least five members, representing at least two member societies different from that of the nominators.

Members of the IAPR Executive Committee, as well as of the Award Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

The 2008 prize will be presented at the

[19th International Conference on Pattern Recognition \(ICPR\)](#)

Tampa, Florida, USA

8-11 December 2008

The nomination must be made on a [special nomination and the endorsement forms \(in the MS Word format\)](#), and must be received by the Award Committee Chairman no later than 30 April 2008. Both completed and signed nomination and endorsement forms must be submitted in the paper form (no electronic submission). The nominator as well as endorsers should mail their completed forms directly to the chairman of the Prize Committee:

Prof. Josef Kittler,
Chair K-S. Fu Prize Committee
Centre for Vision, Speech and Signal Processing
University of Surrey
Guildford GU2 7XH
United Kingdom
email: J.Kittler@surrey.ac.uk

Call for Nominees

J.K. Aggarwal Prize

The International Association for Pattern Recognition (IAPR) is pleased to announce a call for nominations for the second [J.K. Aggarwal Prize](#) in honor of Professor J.K. Aggarwal.

Professor Aggarwal is widely recognized for his extensive contributions to the field of pattern recognition and for his participation in IAPR's activities.

**Nominations deadline:
31 May 2008**

Nomination and endorsement forms can be downloaded from the [J.K. Aggarwal Prize](#) page of the IAPR web site.

The recipient is a young scientist, under the age of 40 at the date of the deadline for nominations, 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 prize consists of a cash amount and a suitably inscribed certificate. The prize is derived from interest income from a special fund set up for this purpose.

The prize recipient shall be selected by the J. K. Aggarwal Prize Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by endorsement of four members, representing at least two member societies different from that of the nominators and nominee.

Members of the IAPR Executive Committee, as well as of the J.K. Aggarwal Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

The 2008 prize will be presented at the

[19th International Conference on Pattern Recognition \(ICPR\)](#)

Tampa, Florida, USA

8-11 December 2008

The recipient is expected to present an invited talk to the conference.

The nomination must be made on special nomination and the endorsement forms (in MS Word format), and must be received by the Appointed J.K. Aggarwal Prize Committee Chairman no later than 31st May 2008. Both completed nomination and endorsement forms must be submitted in electronic form. The nominator as well as endorsers should email their completed forms directly to the Appointed Chairman of the J.K. Aggarwal Prize Committee via the specified email address:

Professor Brian C. Lovell, Appointed Chair J.K. Aggarwal Prize Committee
School of Information Technology and Electrical Engineering
The University of Queensland
St Lucia 4072
Brisbane, Queensland
Australia
aggarwal-prize@itee.uq.edu.au

Of interest...

Applications are invited for the Position of Editor-in-Chief for IEEE Transactions on Pattern Analysis and Machine Intelligence

The IEEE Computer Society seeks applicants for the position of [Editor-in-Chief \(EIC\) of IEEE Transactions on Pattern Analysis and Machine Intelligence](#). The initial two-year term of the new EIC is to begin 1 January 2009.

For more information begin at www.computer.org/portal/site/ieeecs/, click on Publications then Journals and select "Transactions on Pattern Analysis and Machine Intelligence".

Free Books!

I have a number of books that need to be reviewed. If you have interest and some knowledge in the topic, let me know. I will send you the book — which you will be able to keep — and expect in return a review for the *Newsletter*. 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 to see more book detail.

Below are some of the books I'd appreciate help reviewing. If interested, Please email me at logorman@avaya.com,

[Larry O'Gorman](#), IAPR Newsletter Editor

Classification and Learning Using Genetic Algorithms: Applications in Bioinformatics and Web Intelligence (Natural Computing Series) (Hardcover) by Sanghamitra Bandyopadhyay (Author), Sankar K. Pal (Author), Springer; 1 edition (June 11, 2007)

Feature Extraction & Image Processing, Second Edition (Paperback) by Mark Nixon (Author), Alberto S Aguado (Author), Academic Press; 2 edition (January 21, 2008)

An Introduction to Statistical Signal Processing (Hardcover) by Robert M. Gray (Author), Lee D. Davisson (Author) Cambridge University Press (January 24, 2005)

Probability and Computing: Randomized Algorithms and Probabilistic Analysis (Hardcover) by Michael Mitzenmacher (Author), Eli Upfal (Author), Cambridge University Press (January 31, 2005)

Learning Theory: An Approximation Theory Viewpoint (Cambridge Monographs on Applied and Computational Mathematics) (Hardcover) by Felipe Cucker (Author), Ding Xuan Zhou (Author), Cambridge University Press; 1 edition (May 14, 2007)

More of interest...

Calls for Submissions...



We would like to invite you and your colleagues to visit the online Journal of Pattern Recognition Research (JPRR) (ISSN 1558-884X) at

www.jprrr.org

and submit research papers on the usage of pattern recognition in all fields of science, engineering, and commerce.

Call for Submissions to a Special Issue on

ADVANCES IN MULTIMODAL BIOMETRIC SYSTEMS

Journal of Visual Languages and Computing
Elsevier Press

mailserver.di.unipi.it/pipermail/grin/special_issue_biometrics_jvlc.pdf

IMPORTANT DATES

Manuscript Due May 31, 2008

Major Revisions Due October 1, 2008

Notification of Final Acceptance December 01, 2008

Final Manuscript Due February 01, 2009

GUEST EDITORS

Michele Nappi mnappi@unisa.it and Genny Tortora tortora@unisa.it

To the editor...

This letter was received from Bob Fisher (University of Edinburgh). Note that Bob Fisher wrote an article about CVOnline (mentioned below) for the [April 2005 issue of the IAPR Newsletter](#).

~ L. O’Gorman, ed.

Hi - I'd like to introduce ground-truth labeled video sequences with interacting groups:

<http://groups.inf.ed.ac.uk/vision/BEHAVEDATA/INTERACTIONS/>

The dataset has various scenario's of people acting out 10 types of group interactions: InGroup, Approach, WalkTogether, Split, Ignore, Following, Chase, Fight, RunTogether and Meet. The data includes individual interacting in groups and groups interacting.

The data is captured at 25 frames per second. The resolution is 640x480. The videos are available either as AVI's or as single JPEG files. About 70K frames of the video sequences have ground truth bounding boxes of the people so far, in the VIPER XML format.

There is data for a ground plane homography.

Can I also mention other sites that might interest you or your new students:

the CAVIAR ground-truthed video sequence data

<http://groups.inf.ed.ac.uk/vision/CAVIAR/CAVIARDATA1/>

BEHAVE's crowd sequence data

<http://groups.inf.ed.ac.uk/vision/BEHAVEDATA/CROWDS/>

CVonline (online vision "encyclopedia") now extended with subtrees on visual neurophysiology and psychophysics, and a list of imaging/vision related books:

<http://homepages.inf.ed.ac.uk/rbf/CVonline/>

HIPR2 - JAVA-based interactive image processing tutorials including a pull-down plug-together workspace

<http://homepages.inf.ed.ac.uk/rbf/HIPR2/>

Enjoy, Bob

The development of the BEHAVE data was funded by the UK's EPSRC in the BEHAVE project.

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 (these non-IAPR events are denoted with an *). 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.)

Highlighting indicates that paper submission deadline has not yet passed.

2008

DGCI 2008	14th International Conference on Discrete Geometry for Computer Imagery	Lyon, France	16-18 Apr 08
OAGM/AAPR *	* 32nd OAGM/AAPR Workshop	Linz, Austria	26-27 May 08
CIP 2008	1st IAPR Workshop on Cognitive Information Processing	Santorini, Greece	9-10 Jun 08
*	* 5th Summer School for Advanced Studies on Biometrics and Secure Authentication	Alghero, Italy	9-13 Jun 08
DAGM 2008 *	* 30th Annual Symposium of the German Association for Pattern Recognition	Munich, Germany	10-13 Jun 08
ICISP 2008	International Conference on Image and Signal Processing	Cherbourg-Octeville, France	1-3 Jul 08
ANNPR 2008	3rd International Workshop on Artificial Neural Networks in Pattern Recognition	Paris, France	2-4 Jul 08
AMDO 2008	V International Conference on Articulated Motion and Deformable Objects	Puerto de Andratx, Mallorca, Spain	9-11 Jul 08
ICFHR 2008	11th International Conference on Frontiers in Handwriting Recognition	Montreal, Quebec, Canada	19-21 Aug 08
EVA VIENNA 2008	IAPR-TC19 Workshop on Computer Vision for Cultural Heritage	Vienna, Austria	25-28 Aug 8
CIARP 2008	13th Iberoamerican Congress on Pattern Recognition	Havana, Cuba	9-12 Sep 08
DAS 2008	8th International Workshop on Document Analysis Systems	Nara, Japan	17-19 Sep 08
PRIB 2008	3rd IAPR International Conference on Pattern Recognition in Bioinformatics	Melbourne, Australia	15-17 Oct 08
S+SSPR 2008	Joint IAPR International Workshops on Structural and Syntactic Pattern Recognition and Statistical Techniques in Pattern Recognition	Orlando, Florida, USA	4-6 Dec 08
ICPR 08	19th International Conference on Pattern Recognition	Tampa, Florida, USA	8-11 Dec 08

2009

ICDAR 2009	10th International Conference on Document Analysis and Recognition	Barcelona, Spain	July 26-29, 2009
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