

BMVA News

The Newsletter of the British Machine Vision Association and
Society for Pattern Recognition

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BMVA News¹ is published every three months. Contributions on any activity related to machine vision or pattern recognition are eagerly sought. These could include reports on technical activities such as conferences, workshops or other meetings. Items of timely or topical interest are also particularly welcome; these might include details of funding initiatives, programmatic reports from ongoing projects and standards activities. Items for the next edition should reach the editor by 31 May 2002.

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Editorial

Times are moving on, and the paperless office is often talked about, though in practice the amount of paper used seems to grow rather than shrink with time. Arguably, this is because it's often easier to see the wood for the trees when it's all been printed out – so the first action one takes with many emails is to press the print button. Is one right to do this? Well, however easy it may be to understand the short-term meaning on a computer screen, it is often quite difficult to get to grips with the global structure of a substantial document in this way: after all, the screen is scarcely the size of an A4 sheet and is usually the wrong way around!

In this context, we can ask whether BMVA News still has a function, now that the website is kept very up-to-date and is easy to negotiate. If you want to look up information on forthcoming BMVA meetings, or find out about BMVC, or learn a variety of things about the UK Machine Vision scenario, the information is there close at hand. Nevertheless, on the BMVA Executive Committee we are convinced that BMVA News is a useful organ

and is here to stay. It is able to present and package nicely a good proportion of the information about news and events that will be needed over the next couple of months, and to help provide a sense of community. Interestingly, one country whose vision society backed away from providing a newsletter recently found its membership levels dropping disastrously; an interesting parallel is the IEE's situation over the past 2–3 years, wherein the abandonment of the 'Professional Groups' (including the one pertaining to vision) led to a loss of identity and lack of commitment from many academics: I am convinced that much readily available 'free' mutual help and resources were lost to the IEE in this way.

Of course, loss of the printed word should not in principle eliminate a sense of participation and of community, but I believe there is a mechanism why this should occur. For the regular dropping of an envelope through the letter-box provides a marking of time, in a way that the random albeit frequent updating of a website cannot. You can only find when a website has been updated by exploring it, and there is always a sense of *déjà vu*: also, it can take a lot of effort to find new things, and 2–3 hours can slip away so easily on the Web ... Thus BMVA News is only circulated 4 times per year, when we have something definite to say, and the 'plonk' of its arrival on your doormat is a signal that the time has come to find out what is on offer and what you might miss if you don't heed our deadlines. On the other hand, the website will be useful when you find you need an update at a random moment between our regular newsletter timeslots. This 'belt and braces' approach means that you shouldn't be caught unawares!

Professor Roy Davies
 Editor, BMVA News
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BMVC 2004

The BMVA Executive Committee looks for expressions of interest by University groups active in research in the field of Machine Vision and Pattern Recognition, to organise BMVC 2004. The Committee will consider all expressions of interest that arrive by 15 April 2002. A short list of offers to organise the conference will be formed by the Committee during its meeting on 17 April. The short-listed groups will then be asked

to produce full proposals that will be considered by the Committee during its meeting in May. The full proposals should include a full budget and organisational details. Please send your expressions of interest by email to Professor Maria Petrou (m.petrou@eim.surrey.ac.uk).

Professor Maria Petrou
 University of Surrey
 email: m.petrou@surrey.ac.uk

The Sullivan Doctoral Thesis Prize 2002

The BMVA Executive Committee seeks nominations for the Sullivan Doctoral thesis prize. The 2002 prize will be awarded to the best thesis nominated which was submitted and examined in the UK, during the calendar year 2001. These examiners and supervisors may act as nominators, but the committee would like to receive an accompanying report and endorsement of the nomination from the thesis external examiner. Please send any nominations to the secretary of the Association, Dr Paul Rosin (Paul.Rosin@cs.cf.ac.uk) by 15 April 2002. The theses nominated should be made available through a web page. In addition, two hard copies (not necessarily bound) should be sent to Dr Paul Rosin, Department of Computer Science, Cardiff University, Queen's Buildings, Newport Road, Cardiff CF24 3XF.

Professor Maria Petrou
 University of Surrey
 email: m.petrou@surrey.ac.uk

BMVA Distinguished Fellow 2002

The BMVA Executive Committee seeks nominations for the Distinguished Fellow 2002 award. This prestigious award is given to one person only each year in recognition to his/her services to the British Machine Vision community. The nominees must be distinguished researchers, based in the UK, who have contributed significantly to the field of research and the reputation of the British Machine Vision Community both nationally and

internationally. Nominations with a few lines of rationale, should be sent to the chairman of BMVA Professor Maria Petrou (m.petrou@eim.surrey.ac.uk) by 15 April 2002.

Professor Maria Petrou
University of Surrey
email: m.petrou@surrey.ac.uk

Professor Michael Brady: BMVA Distinguished Fellow 2001

From pure mathematics, to computing and to robotics, Mike Brady's life has spanned three continents and a trail of successes! A fascinating story of quest and discovery that started by being an anonymous undergraduate in UMIST, and ending up as Professor Michael Brady, FRS, FEng, BP, and a few other strings of letters that fade in comparison!

Mike Brady obtained his Mathematics degree from Manchester in the mid sixties. He must have been really determined and known what he wanted from life in order to move to the other side of the world in order to do his PhD, given that there must have been plenty of PhD opportunities in any of the UK universities. Nevertheless, the young Mike Brady went all the way to Australia to work under the supervision of Bernard Neumann and obtained his PhD in pure Mathematics in less than 3 years, from the Australian National University.

But the quest was not over: pure Maths is beautiful, but there must be something equally beautiful which is closer to real problems in life. Computers started looking exciting at the time, and the idea of building a machine that can reason fascinated the restless mind of the young Doctor of Philosophy. He found a copy of the proceedings of a computer conference and wrote to all participants asking for a postdoctoral position. He had 7 positive responses out of the 70 letters he wrote, one of them a lectureship at Essex University to teach Computer Science, having never seen or used a computer till then! Five years later he was publishing his first book, *Theory of Computer Science!* The idea of building a machine that can reason was still in the forefront of his quest and his first success was a system that could read hand-written Fortran programming sheets.

With his first book out, Mike set off for a homage to the shrine of Engineering, the MIT lab. It would

have been difficult to go to MIT at the time and not be awed by the American might: the average graduate student had at his disposal more computing power than the whole of Essex University! The place was a hive of activity in research. It was THE place that made things happen! Mike went for a sabbatical year and stayed intermittently for almost 10 years. At last he could build machines that could see and reason. Mike was happy in his robotics lab at MIT, until a telephone call from Oxford in 1985 put him on the spot: staying at MIT, or taking up the challenge to start from the beginning again and build his own robotics lab in Oxford. Fortunately for the UK, Oxford won: in 1985, Mike left MIT to take up the newly created Professorship in Information Engineering at the University of Oxford. At Oxford he founded the Robotics Laboratory and the Medical Vision Laboratory (MVL).

Nowadays, he combines his work with a range of entrepreneurial activities: He serves as a non-executive director on the Boards of Directors of Oxford Instruments, AEA Technology, and, until recently, Isis Innovation (Oxford University's intellectual property company). He is a founding Director of the start-up companies Guidance and Control Systems, Oxford Medical Image Analysis (OMIA), and Oxford Intelligent Visualisation and Analysis (OXIVA). Shortly he will be taking up the Directorship of the recently announced EPSRC/MRC Inter-disciplinary research consortium entitled "From Medical Images and Signals to Clinical Information".

In addition, he has authored or co-authored over 250 articles in computer vision, robotics, medical image analysis, and artificial intelligence. He is author or editor of nine books, including: *Robot Motion* (MIT Press 1984), *Robotics Science* (MIT Press 1989), *Robotics Research* (MIT Press 1984), and *Mammographic Image Analysis* (Kluwer, January 1999). He is the editor of the Artificial Intelligence Journal, and a founding editor of the International Journal of Robotics Research. He is a member of the Editorial Board of fourteen journals, most recently of Medical Image Analysis. Professor Brady was elected a Fellow of the Royal Academy of Engineering (UK) in 1991 and a Fellow of the Royal Society (UK) in 1997. He is a Fellow of the Institution of Electrical Engineers and a founding Fellow of the Association of Artificial Intelligence, and a Fellow of the Institute of Physics. He is a member of the Conseil Scientifique de l'INRIA France. He has been awarded honorary doctorates by the universities of Essex, Manchester, Liverpool, Southampton, and Paul Sabatier (Toulouse). He was awarded the

IEE Faraday Medal for 2000 and the IEEE Third Millennium Medal for the UK. He is the 2001 BMVA Distinguished Fellow!

Professor Maria Petrou
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From the outgoing Meetings Officer

It's been over 3 years now since I took up the post of meetings officer for the BMVA. In that time I have thoroughly enjoyed organizing the meetings and having the opportunity to meet many of our members. When I took over the post, attendance at meetings was low. Since then we have tried to better promote the meetings with the introduction of the mailbase and co-sponsorship. Our attempts to rekindle your interest has worked, and last year saw a move of venue from the British Institute of Radiology to the Royal Statistical Society. This was partly for financial reasons (after all the BMVA heavily subsidises meetings as a service to its members) and because our old venue was becoming too small for the interest meetings were generating. I am now standing down but will remain on the Committee and will more than likely appear again in your mailbox under a different guise in the near future. But I would like to thank everyone who has made the technical meetings possible, the chairs, participants and delegates. Daniel Alexander of UCL will be taking over from me, following the next² meeting on mathematical methods in computer vision on 23 January. Thanks for everything and I hope to continue to actively contribute to the BMVA. See ya all soon.

Rich

As always see www.bmva.ac.uk for current info but this year's schedule is:

- 23 Jan 2002 Mathematical Methods In Computer Vision
- 6 March 2002 Advanced Biometric Technology
- 8 May 2002 Machine Vision and Photogrammetry – A case for multiple viewpoints?

Dr Richard Bowden
University of Surrey
email: r.bowden@eim.surrey.ac.uk

²Clearly, this and some other articles were written well ahead of publication in BMVA News! Ed.

Eighth Annual EPSRC Summer School on Computer Vision

University of Surrey, Guildford

17 – 21 June 2002

GENERAL

This intensive course is aimed at postgraduate research students in the areas of Computer Vision, Image Processing and Pattern Recognition. It is sponsored by the Engineering and Physical Sciences Research Council (EPSRC) and organised with the assistance of the British Machine Vision Association and Society for Pattern Recognition (BMVA).

OBJECTIVES

The course is residential, spanning five days (midday Monday to midday Friday), and consists of lectures, tutorials and practicals on diverse topics in computer vision, image processing and pattern recognition. It is intended that the course will complement existing technical lecture course material that most students meet in the first year of their postgraduate training. It will provide an opportunity to broaden awareness of available vision, image and pattern recognition techniques and to develop skills in research methodology. The course will mix state-of-the-art presentations from acknowledged UK experts with group work, case studies and practical exercises.

COSTS

For EPSRC sponsored research students the course is FREE. The registration fee for non-EPSRC students will be 500 pounds. A limited number of bursaries to meet half the non-EPSRC student costs will be available, courtesy of the BMVA.

APPLICATION PROCEDURE

The number of places is limited and therefore participants will be selected on the basis of their experience and suitability to benefit from the course. Priority will be given to students in the first or second year of their postgraduate study. Applicants must provide brief details of their research area and a statement of the benefit of the course to their research. An endorsement is required from the student's research supervisor. Applicants will be advised of the fate of their application as soon as possible but by mid May at the latest.

A WWW based application form can be found at:

<http://www.ee.surrey.ac.uk/CE/epsrscss.html>

<http://www.bmva.ac.uk/summer/index.html>

PRELIMINARY PROGRAMME

State of the Art Reviews

Biological vision systems. Image acquisition and image modelling. Filtering, feature extraction and perceptual grouping. Statistical pattern recognition and decision making methods. 3D object recognition and reconstruction. Motion analysis. Theories of high-level vision.

Research Methodology

The art of literature review. Ad hoc techniques versus a framework-based methodology. Model development. Experiment design. Statistical analysis. Robust estimation. Performance characterisation. Research work reporting and presentation.

Project Management

Planning: project formulation, research problem identification, definition of research objectives. Work-programme definition, methods to be used. Experimental evaluation. Work-programme schedule and monitoring. Programme revision. Co-operation and collaboration.

Case Studies

Illustration of methodology development on the problem of edge detector design. Medical/industrial application case studies.

Support Tools

Image processing environments. Image processing algorithm libraries. Public domain software. Software sharing, and ethics. Software tools. Standardisation. Visualisation. System/software integration.

Hands-on Experience

The school programme will offer ample opportunity for the active involvement of the participants in group activities, personal research project presentation and experimentation using Unix-based workstations.

Dr Richard Bowden
University of Surrey
email: r.bowden@eim.surrey.ac.uk

British Machine Vision Conference 2002 (BMVC 2002)

BMVC is the main UK conference on machine vision and related areas. Organised by the British Machine Vision Association, the 13th BMVC will be held on 2–5 September 2002 at the University of Cardiff, Cardiff, UK. Papers will be refereed on their originality, presentation, empirical results, and quality of evaluation. Conference topics include (but are not limited to):

- image features and coding
- multi-view and stereo vision
- grouping and segmentation
- texture, shading and colour
- object recognition
- real-time and active vision
- shape and surface geometry
- medical and industrial applications.

BMVC 2002 will be a single-track meeting with oral and poster presentations. The Proceedings will be available to delegates at the conference in hard copy and on CD and a selection of the best papers will be published separately in a special issue of the journal *Image and Vision Computing*.

In addition to the contributed papers BMVC 2002 will include presentations by invited speakers and a pre-conference tutorial programme. The keynote speakers at BMVC 2002 will be Professor Yiannis Aloimonos (University of Maryland) and Professor Vaclav Hlavac (Czech Technical University). This year's tutorial on "Computer vision in the future of communications: immersive teleconferencing, telepresence, and more" will be given by Dr Manuel Trucco (Heriot-Watt University) on the afternoon of Monday 2 September 2002.

BMVC 2002 will incorporate a designated Industry Day on Wednesday 4 September. Presentations on Industry Day will focus on the practical applications of machine vision, and we are particularly keen to see presentations of well evaluated applications which clearly show thorough understanding of the underlying principles. A special session of podium presentations is planned with a plenary talk by Dr Andrew Stoddart, 2d3.

Delegates will be able to view poster presentations and see demonstrations by both industrial exhibitors and researchers demonstrating their academic work.

IMPORTANT DATES

Deadline for paper submission: 26 April 2002

Notification of acceptance: 17 June 2002

Deadline for camera-ready electronic copy: 5 July 2002

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Two messages from the BMVA Publicity Officer

Choose to do a PhD in Computer Vision!

The BMVA would like to encourage more Undergraduate students in British universities to choose to do a PhD in Computer Vision. In the light of this, BMVA shall produce some simple but effective WWW pages aimed specifically at undergraduate students, outlining the use of computer vision in different application and market areas, and providing information on universities offering PhDs in computer vision, and companies, associations, etc.

The BMVA already keeps a list of vision groups in British universities available at:

<http://www.bmva.ac.uk/meetings/list.html>

This list will be a starting point for us, but if you would like your university to be listed, then please email me (majid@cs.bris.ac.uk) with a link to your PhD Admissions page AND your vision group. Please also send a gif/jpg/etc version of your department/university logo.

Suggestions of any other information you feel would be useful to appear on these pages will be very welcome. We aim to produce relatively little text to keep the students' attention and interest as long as possible as they visit these pages.

The IPOT 2002 Show

BMVA took part in the annual IPOT (Image Processing and Optical Technology) show in much the same way as in the last few years. IPOT has recently been twinned with a second show called Machine Vision which aims to present the whole shindig in the same place and at the same time – which obviously makes a lot of sense.

The show consists primarily of lots of companies demonstrating equipment and software related to imaging such as cameras, microscopes, scanners, and other sensors as well as fibre optics, laser systems, displays and storage devices. The machine vision show concentrates more on both general purpose and special purpose industrial inspection systems. Visitors to the show are industrialists, students, academics, engineers, technicians, etc.

The IPOT organisers kindly offer the BMVA a free stand each year, albeit the size of the stand seems to be exponentially decreasing over time! This year we had enough space to accommodate two demos on the first day of the exhibition (and no room even to put one of the few free mugs we collected from the other stands!) and one on the second day.

The people who kindly offered their services to demonstrate their systems were: Ebroul Izquierdo and Janko Calic from Queen Mary University of London demonstrating “the QMUL video analyser”, John Oakley from UMIST demonstrating “a system for enhancing images of scenes viewed in misty or foggy conditions”, and finally, Emanuel Trucco from Heriot Watt University demonstrating his work on “immersive teleconferencing using advanced computer vision”. I would also like to thank Patrick Courtney on behalf of the BMVA for volunteering to man the stand on the second day of the show.

Of course, many people just pass by but quite a lot do stop for a chat, see the demonstrations and find out about the BMVA. A few visitors also

always have queries that can lead to interesting and fruitful collaborations, e.g. on this occasion a medical scientist wanted solutions to a medical imaging problem and an industrialist had an interesting application for looking at people in supermarkets. As always, all queries were directed to the Member's List page at the BMVA www site so if your research group's www pages are not on the list be sure to send the relevant info to Dr Richard Bowden at r.bowden@eim.surrey.ac.uk to add you to the list or you'll miss out!

Although the next IPOT is now almost a year away, anyone interested in demonstrating their system at next year's show is welcome to contact me by email to book their place!

Dr Majid Mirmehdi
University of Bristol
email: majid@cs.bris.ac.uk

MIUA 2002

The Medical Image Understanding and Analysis Conference takes place at the University of Portsmouth on 22–23 July 2002, but the deadline for papers has now passed. Full details can be found on the conference web-site at: <http://www.miua.org.uk/>.

Alex Houston
Chair MIUA 2002
University of Portsmouth
email: alex@haslar.demon.co.uk

CIVR 2002: International Conference on Image and Video Retrieval

This conference, the fourth in the series, will be held in the British Library, London, UK on 18–19 July 2002: it will aim to provide an international forum for the discussion of challenges in the fields of image and video retrieval.

A unique feature of this conference is the high level of participation from practitioners. Applications papers and presentations suitable for a wide audience

are therefore particularly welcome. Topics of interest include but are not limited to:

- Query models, paradigms and languages for image/video retrieval
- Content-based indexing, search and retrieval of images
- Feature extraction and representation
- Visual perception and image/video retrieval
- Image/video search and browsing on the Web
- Similarity measures between images/video
- Semantic retrieval of images and video
- Pattern recognition techniques for image classification and retrieval
- Evaluation of image and video retrieval systems
- Studies of information-seeking behaviour among image/video users
- HCI issues in image/video retrieval
- Database architectures for image/video retrieval
- High performance image/video indexing algorithms
- Novel image data management systems and applications
- Image data management for multimedia systems
- Image security and rights management

KEYNOTE SPEAKER

Arnold Smeulders, University of Amsterdam

ORGANISING COMMITTEE

John Eakins (Organising Chair)
Michael Lew (Technical Program)
Margaret Graham (Practitioner Program)
Peter Enser
Richard Harvey
Paul Lewis
Chris Porter
Alan Smeaton

PROGRAM COMMITTEE

Jim Austin, University of York
Alberto Del Bimbo, University of Florence
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 of Northumbria
 The British Computer Society, Information Retrieval
 Specialist Group
 The British Machine Vision Association
 Getty Images
 The Institution of Electrical Engineers
 The Leiden Institute of Advanced Computer Science

IMPORTANT DATES

4 March 2002: Submission of full paper
 10 April 2002: Notification of acceptance
 1 May 2002: Camera-ready full paper

Submission details are on the website:

www.civr2002.org

The proceedings will be published by Springer-Verlag
 in the Lecture Notes in Computer Science Series.

Dr Richard Harvey
 University of East Anglia
 email: rwh@sys.uea.ac.uk

Computer Vision Winter Workshop: An Overview

The Seventh Computer Vision Winter Workshop was held on 4–7 February 2002 at the Hotel Wasnerin in Bad Aussee, Austria. To stress the character of a workshop the meeting was organised in small working groups in addition to the plenary

sessions where topics of research and work in progress were discussed. The workshop was organised by the Pattern Recognition and Image Processing Group, Institute of Computer Aided Automation, Vienna University of Technology.

Workshop topics covered the usual computer vision subjects such as Vision in 3D and 4D, Object Recognition, Motion Analysis, Structural Representation, Active Vision, Learning in Computer Vision, Computer Vision Systems and Applications. There were around 35 paper presentations and a working groups session. There were approximately 50 participants.

As I gathered, the attendees were mostly from Austria, the Czech Republic and Slovakia and the environment showed a lot of academic collaborations among them. Of course geography is a significant factor, Bratislava, capital of Slovakia is only 30 kilometres from Vienna. The workshop venue was built in very beautiful Alpine landscape and established in the 1930's, (it has been modernised of course) and is a favourite place for climbers and skiers.

Many papers at the workshop focused on camera manipulation and modelling, image acquisition and 3D vision. There were some studies about modelling and interpretation of a digital image as a mathematical graph. As I understood, research in the PRIP group has focused on 3D vision and CAD applications especially for car industries. This is possibly related to the density of German car industries in the southern and middle parts of that country.

All the papers were very high quality, however, among them, I found the following most interesting. B Luo, R Wilson and E Hancock described their work titled "Spectral embedding of graphs". It was a study on how to embed symbolic relational graphs in a pattern space using a graph-spectral approach. Demonstrated results were extracted from 2D views of 3D objects. R Lukac presented his paper "Improved directional distance filters", that focused on a vector approach for noisy colour images which have been derived from a class of directional distance filters that combine the sum of vector distances and the sum of vector angles between multichannel input samples.

R Bernard, B Likar and F Pernus reported on their study "Statistical model-based segmentation of articulated structures". Using statistical parametrical models obtained by principal component analysis, their work describes a general method for segmenting articulated structures. The models represent shape,

appearance and topology of anatomic structures and are incorporated in a two-level hierarchical scheme. “Defining regions within the combinatorial pyramid framework” was a paper by L Brun and G Kropatsch. Using a graph-based modelling, they define irregular pyramids as a stack of successively reduced graphs. Again combinatorial pyramids are considered as a set of precisely reduced combinatorial maps. A Hanbury’s presentation “The taming of the hue, saturation and brightness colour space” was another interesting article. It introduced a new definition for HSB colour space where brightness and saturation values can be evaluated independently. Experiments showing the advantages of the new scheme were introduced. F Hundelshausen and R Rojas described their work “A general algorithm for finding transitions along lines in coloured images”. This was a review on some problems and solutions during a robo-footballer project. A dual window transition search algorithm for finding out the edges in images has been discussed.

As mentioned before, the conference organised some working groups and extra talks along with normal presentations. To me the most interesting working group was about The FP6/AMI programme. FP6/AMI describes how ordinary European citizens may use ‘Ambient Intelligence’ (AMI) in their usual life in 2010. Proposed at the end of 2001 by the European Commission’s Joint Research Centre as a part of the Sixth Framework Program (FP6), the concept of AMI shows the possible role of digital technology in our normal life in the not very distant future. Scenarios were provided to sketch a more imaginable overview of life influenced by digital technology and the huge advantages of successful implementation of current European scientific research of digital technology. The FP6 presentation was by Ales Leonardis, FCIS, University of Ljubljana. Interested readers can find more information at: www.cordis.lu/ist/istag.htm.

There were also some amazing social events organised by the conference committee, such as an excursion to the Fischerhutte Restaurant, where after a long nice night walk we had a delicious fish meal and Styrian Banquet, an exhibition of Austrian traditional clothes, music, foods and dances. More information about this conference is available at www.prip.tuwien.ac.at/cvww02. Some photos of presentations, venue and social events have recently been added.

Amir Monadjemi
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Book review – Shape Analysis and Classification (Theory and Practice)

Luciano da Fontoura Costa and Roberto Marcondes Cesar Jr., CRC Press, Sept 2000, 456 pp., £56-00, ISBN 0-8493-3493-4

In the last decade there have been many developments in the field of shape analysis, and several books covering the subject have been written. These books cover different aspects of shape analysis, for example from a landmark based approach or from an image processing perspective. Few books give an introduction to several aspects of shape analysis. However, *Shape Analysis and Classification* does cover several aspects in the field of shape analysis in a 2D setting. Whilst other books may give more extensive descriptions of certain areas of shape analysis, this book certainly gives a sufficient introduction to many areas, for example 2D landmark based shape analysis and in other cases, for example shape representation by digital means, a thorough introduction and coverage of the main concepts. It is presented as a self-contained introductory textbook. The authors realise that shape analysis encompasses a wide variety of disciplines from Mathematics, Statistics and Computer Science, whilst shape analysis is applied in many areas, such as Biology, Engineering and Material Sciences. Therefore it is the intention of the authors to make the concepts covered in the book accessible to a broad range of readers. Thus a comprehensive review of all the basic mathematical concepts encountered is included. Along with this, the idea behind the mathematical detail is given and in many cases accompanied with examples.

The book begins by introducing the reader to shape analysis. This includes some case studies which highlight the role of shape analysis and classification. The following chapter gives an extensive review of the main mathematical concepts used in the proceeding chapters. Chapter 3 gives an overview of the most regularly used image processing techniques. For instance, several algorithms for image enhancement, filtering, edge detection and image segmentation are reviewed. These first three chapters are perhaps aimed at those who are relatively inexperienced in shape and image analysis outside a mathematical based discipline. The remaining chapters cover topics of a higher content. These are to some extent directed towards those with some expertise with shape and images.

Chapter 4 covers the main concepts of 2D shape

analysis. Chapter 5 discusses some of the methods for shape representation by digital means. Chapters 6 and 7 cover methods to extract information from shapes, including multi-scale techniques via curvature and wavelets. Methods to classify shapes are presented in Chapter 8. The final chapter presents some thoughts on future work in shape/image analysis and processing.

The way in which the book is written clearly illustrates the authors' enthusiasm for the subject, illustrated immediately in the introduction. Such enthusiasm is, in my opinion, beneficial to any perspective reader. Also, the general style of the book is good. In particular, throughout the book several boxes are included which highlight examples, algorithms, important notes and pointers to references for more detailed coverage of specific topics. This is a nice idea and definitely helpful when browsing.

Since the book offers a review of many mathematical concepts I would say it is suitable for relative newcomers to the fields of shape and image analysis who are outside a mathematical based discipline who wish to apply some of the concepts of shape analysis and classification. The presence of numerous examples and clearly explained algorithms is definitely helpful to relative novices. However, the content of much of the book is of a reasonably high level and would be a good acquisition for any researcher in the field of shape and image analysis as a general reference of the subject.

Overall, I recommend this book. It is easy to read and well laid out with many examples, diagrams and figures.

Dr Paul McDonnell
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Books for review

Would you like to have the opportunity to review a book for BMVA News? If you review a book you can of course keep it for your own use! Books will be sent out on a first come-first served basis. A book that has recently been received for review is:

M. Nixon and A. Aguado *Feature Extraction and Image Processing*, Newnes, 2002, ISBN 0 7506 5078 8, paperback, xii + 350 pp.

So far I have had no offers to review the following

book, which seems to me would be an excellent addition to someone's bookshelf! –

O. Faugeras and Q.-T. Luong *The Geometry of Multiple Images: the Laws that Govern the Formation of Multiple Images of a Scene and Some of Their Applications*, MIT Press, May 2001, ISBN 0 262 06220 8, hardback £44-95, xxiv + 644 pp.

Professor Roy Davies
Editor, BMVA News
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Urgent deadlines

As stated on p. 2–3, 15 April 2002 is the closing date for nominations for the following:

- BMVC 2004 organisation and venue
- The Sullivan Doctoral Thesis Prize 2002
- BMVA Distinguished Fellow 2002

If you miss this important deadline, you should immediately contact the Chair of the BMVA Executive Committee, Professor Maria Petrou, by phone or email:

Professor Maria Petrou
University of Surrey
tel: +44 1483 689801
email: m.petrou@eim.surrey.ac.uk

Finally, don't forget the deadline for papers to be submitted to BMVC 2002 (see p. 4) – 26 April 2002.