

BMVA News

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

Volume 17 Number 3
March 2007

Editor: Professor Roy Davies
Department of Physics
Royal Holloway, University of London
Egham, Surrey, TW20 0EX
Tel: +44(0)1784 443497
Fax: +44(0)1784 472794
email: e.r.davies@rhul.ac.uk

<http://www.bmva.ac.uk/>

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 1 June 2007.

Contents

Editorial: <i>Friends, colleagues and countrymen</i>	1
BMVA News – Items for Inclusion	2
Technical Meetings outside London?	2
BMVA Thesis Archive	2
BMVC – Second Call for Papers	3
BMVA Distinguished Fellow 2007	3
Vision, Video and Graphics Workshop	4
Vision, Video and Graphics Summer School 2007	4
Book Review – <i>Nearest-Neighbor Methods</i>	5
Report on BMVA Meeting: Vision-based Biometrics... ..	6
Mechatronics and Machine Vision Conference	7
VIE 2007	8
Reconfigurable Architecture Special Issue – CfP	8
Field-Programmable Technology Special Issue – CfP ..	9

¹The British Machine Vision Association and Society for Pattern Recognition is a Company limited by guarantee, No. 2543446, registered in England and Wales. Registered Office: Granta Lodge, 71 Graham Road, Malvern, WR14 2JS. The Association is a non-profit-making body and is registered as charity No. 1002307.

Editorial: *Friends, colleagues and countrymen*

There was a time when I used to quite look forward to reviewing papers: one could engage with new ideas, think how one might use them to enhance one's own work, and at the same time supplement one's own knowledge of the subject area as a whole. As with any unpaid activity that is engaged in for the good of the community, there had to be a plus side, some sort of reward, and that was it. However, over time, I have become much less keen on reviewing. On receiving yet another batch of conference papers to study, one's cry of anguish can almost be heard streets away. For so many submissions are 'incremental' and clearly written with little but the deadline in mind. And there is often little there that can enhance one's global understanding – or, unfortunately, even help one's understanding of that particular piece of work. Quotations of effects, formulae and ideas from other papers can make life really difficult, and one obviously can't go back to all the quoted papers to check on the meaning (one or two such references per paper would perhaps be reasonable). Instead, ideas from other works should at least be outlined in sufficient detail to maintain the continuity of a paper. In my case, part of the trouble is that I have less time and am asked to review more papers than earlier in my career: maybe younger workers do not fall so much into this trap.

So are these points specific to me, or do they reflect the growth of the subject area and the consequent explosive growth of the number of publications? I'm not sure I can answer this question easily, but in any case it isn't that simple. For the subject itself has changed: it has become much more sophisticated and more mathematical, often including complex, sometimes

tricky probabilistic calculations for example, so it is bound to take considerably longer to review papers. The expectations on reviewers must therefore be significantly greater than for yesteryear. This implies that there needs to be more specialisation and use of expert reviewers – which is in line with the greater number of specialist conferences and special issues. Which is also in line with the future fragmentation of the subject that I keep talking about in these columns.

Taking all this into account, maybe we're still just about taking it all in our stride. However, from another angle there is a lot of evidence that this is not the case. As an editor of Pattern Recognition Letters I have had some alarming instances of not being able to find reviewers who will actually carry out reviews even of what seem to be quite good papers: in one case I recently went through more than eight potential reviewers for a paper on 3D recognition before managing to find two who would actually do the job. And it wasn't for any lack of knowing the likely people who *should* be able to do such a review.

Of course we are all busy, but in the end we all have a duty: if we want to publish papers, we have to review papers. There can't be a class of authors and a separate class of reviewers: they have to be drawn from the same population or else the concept of 'peer' will not exist. There is also the class of 'editor', and while it is tempting for editors to act as reviewers (after all, who wants reviewers when one can decide for oneself and cut out a load of admin at the same time?), this is like acting as God and is not permitted behaviour: in any case editors need the reviewers' suggestions and comments, so there is absolutely no short cut here.

The situation is further exacerbated by the fact that nowadays so many workers are editors that they have little time to act as good reviewers for other journals and conferences. No surprise, then, that some journals are now asking authors for suggested reviewers (who of course may or may not be asked to review their papers). Sounds as if you now have to have another life skill in good measure – knowing your colleagues well. Just remember that “et tu, Brute!” referred to someone who was a friend as much as a colleague.

Professor Roy Davies
Editor, BMVA News
email: e.r.davies@rhul.ac.uk

Postscript: Don't forget my plea for *Letters to the Editor* regarding points that would be of general interest to readers and the community – Ed.

Technical Meetings outside London?

The BMVA would like to encourage its members to consider organising one-day technical meetings. Those who normally would not be inclined to do this, because of impracticalities such as distance to the traditional London venue, will be supported to hold the meeting in their home town or nearby, as long as it is in the UK! Please send ideas on “what, where, and when” to Dr Simon Prince (BMVA Technical Meetings Coordinator) for consideration at the next BMVA ExCo meeting. The “what” can be any topic in Computer Vision that interests you, the “where” will preferably be a venue capable of holding the number of people you estimate would attend your meeting (but if you want it held in London, we already have a venue), and the “when” will probably have to be a date after September 2007 (or well into 2008, if you prefer).

Dr Majid Mirmehdi
BMVA Chairman
email: chair@bmva.ac.uk

BMVA Thesis Archive

In order to promote and improve access to the large base of high quality PhD research undertaken in Computer Vision in the UK, the British Machine Vision Association has launched a new online repository. This will act as a single-source archive of all past, current and future PhD work undertaken in this area in UK academic institutions. The service will allow students to quickly and easily share the results of their work with the Computer Vision community, nationally and internationally, and it will be a tremendously useful database for searching and reviewing previous PhD research work undertaken in the UK.

The real value of this service can only be realised if the UK community support the effort and so the BMVA would like to encourage all members to use and, where possible, contribute material to the repository. Contributions are required to be in PDF format and supplementary material such as videos and images are welcome.

The PhD repository can be accessed through the main BMVA website (www.bmva.ac.uk). If you have any problems submitting your thesis to the repository please contact Dr Aphrodite Galata.

Dr Aphrodite Galata
BMVA Publicity Officer
email: agalata@cs.man.ac.uk



BMVC – Second Call for Papers

British Machine Vision Conference 2007, 10–13 September, University of Warwick.

<http://www.dcs.warwick.ac.uk/bmvc2007/>

General Chairs: Abhir Bhalerao and Nasir Rajpoot

The British Machine Vision Conference (BMVC) is the main UK conference on machine vision and related areas. Organised by the British Machine Vision Association, the 18th BMVC will be held during 10–13 September 2007 at the University of Warwick, Coventry. Papers covering theory and/or application areas of computer vision are invited for submission. Submitted papers will be refereed on their originality, presentation, empirical results, and quality of evaluation. All papers will be reviewed doubly blind, normally by three members of our international programme committee. Please note that BMVC is a single-track meeting with oral and poster presentations.

In addition to the contributed papers, BMVC 2007 will include presentations by two keynote speakers:

- Professor Hans Knutsson (Linköping University, Sweden)
- Professor Mubarak Shah (University of Central Florida, USA).

A pre-conference tutorial on visual simultaneous localisation and mapping (SLAM) will be given by:

- Dr Andrew Davison (Imperial College, London)
- Drs Andrew Calway and Walterio Mayol (University of Bristol).

Delegates are also invited to stay to attend the one-day workshop on Friday 14 September which will be organised by the EPSRC Vision, Video and Graphics Network.

Important dates

Deadline for paper submission: 23 April 2007

Notification of acceptance: 18 June 2007
 Deadline for camera-ready copy: 20 July 2007
 Conference: Monday 10 to Thursday 13 September 2007.

Tutorial day

Monday 10 September. “Visual SLAM” Tutorial, presented by Dr Andrew Davison, Imperial College, London and Drs Andrew Calway and Walterio Mayol, University of Bristol.

Workshop (VVG’07)

Friday 14 September.
 One-day workshop on Vision, Video and Graphics
 The workshop call for papers can be found on the website (see also p. 4).

For further details, please see the conference website at:
<http://www.dcs.warwick.ac.uk/bmvc2007/>

Abhir Bhalerao and Nasir Rajpoot
 University of Warwick
 email: abhir.bhalerao@dcs.warwick.ac.uk
nasir@dcs.warwick.ac.uk

BMVA Distinguished Fellow 2007

The BMVA Executive Committee seeks nominations for the Distinguished Fellow 2007 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 Dr Majid Mirmehdi by 30 April 2007.

Dr Majid Mirmehdi
 BMVA Chairman
 email: chair@bmva.ac.uk

Vision, Video and Graphics Workshop



This one-day workshop is to be held on 14 September at Warwick, in association with BMVC 2007.

Co-chairs

- Peter Hall, University of Bath
- John Robinson, University of York
- Roland Wilson, University of Warwick: local chair

The VVG'07 one-day workshop is to take place immediately following the British Machine Vision Conference 2007. For details of BMVC and the workshop see:

<http://www.dcs.warwick.ac.uk/bmvc2007/index.html>

The general workshop theme is the convergence of Vision, Video, and Graphics. Specific areas of interest include, but are not limited to:

- Image based rendering and modelling
- Content based information retrieval for images and video
- Video conferencing
- Augmented reality and HCI
- Graphic insertion into photos and video
- Vision methods in image and video compression
- Non-photorealistic rendering from photos and video
- Video visualisation
- Animation dynamics

Please send your contributions to any of the chairs by the deadline, 29 June 2007. Accepted papers will be distributed via CD at the meeting: choose your own style. Note that selected high quality papers will be invited to submit to the Annals of the British Machine Vision Association.

Dr Peter Hall
University of Bath
email: pmh@cs.bath.ac.uk

Vision, Video and Graphics Summer School 2007

The VVG network is pleased to announce a summer school dedicated to the convergence area. It will be held on 20–21 September at the University of Bath.

- Designed for PhD students, typically in year 1 or 2, from Vision, Video, or Graphics labs.
- A two-day school, delivered by researchers active in the field.
- A practical lab session to re-enforce lectures.
- A poster session to help build presentational skills: a prize for the best poster.
- Open to students from both UK and non-UK labs.
- The cost of £250 per student includes accommodation and meals.
- EPSRC sponsored, some bursaries are available (UK students on EPSRC grants only).

The syllabus

- Image based rendering and cameras: Andrew Fitzgibbon (Microsoft Research)
- The Industrial Face: Oliver Grau (BBC)
- Content Based Retrieval: Andrew Zisserman (Oxford University)
- Human Model Motion Capture: Aphrodite Galata (Manchester)
- Point Based Rendering: Markus Gross (ETH Zurich)
- Geometric Model Acquisition: Steve Maybank (Reading University)
- Non-photorealism from Images: Andrew Bangham (UEA)
- Light and Shadow: Graham Finlayson (UEA)
- Tracking: Richard Bowden (Surrey University)
- Advanced Interaction: John Robinson (York)
- Statistical Models and Methods: Andrew Blake (Microsoft Research)

The VVG Network of Excellence is sponsored by EPSRC.

For further information, visit the website:

<http://www.cs.bath.ac.uk/VVGschool>

Places are limited, so please send early expressions of interest and enquiries about bursaries to either of the organisers:

Peter Hall and John Collomosse
University of Bath
email: pmh@cs.bath.ac.uk
jpc@cs.bath.ac.uk



Book Review – *Nearest-Neighbor Methods in Learning and Vision*

Gregory Shakhnarovich, Trevor Darrell and Piotr Indyk (eds.) *Nearest-Neighbor Methods in Learning and Vision – Theory and Practice*, MIT Press, 2005.

The nearest neighbour problem will be familiar to most of us, and is simply stated: given a set of points in some space, a distance measure on that space, and a query point, find the point in the set with minimum distance to the query point. If points in the set are given tags such as a class label or function value, the method gives an approach to classification or regression problems. Refinements include finding the k nearest neighbours, all neighbours within some radius, and approximate nearest neighbours. While the nearest neighbour method is simple, intuitive, and has excellent bounds in terms of classification and regression accuracy, it has perhaps been applied relatively little, particularly in computer vision. A central issue that has prevented wider use is how to make the method fast – if the data is high-dimensional or the distance measure expensive to compute, then exhaustive search is a poor option. The focus of this book, a collection of contributions by participants in the 2003 NIPS workshop on nearest neighbour methods, is how to make nearest neighbour fast.

The book is nominally divided into three sections: theory, applications in learning, and applications in vision. Chapters vary greatly in length and level of detail, from conference-style papers to journal-length chapters with detailed experiments. The introductory chapter provides a whistle-stop tour of nearest-neighbour speed-up methods – tree structures and locality sensitive hashing (LSH). For those who know the area, this serves as a useful aide-memoire; for the uninitiated a more detailed discussion would no doubt be welcomed.

Section 1 presents two chapters on theory. Chapter 2 covers theoretical bounds on the speed of nearest-neighbour algorithms in terms of measures of dimension of the data, and is packed with information and a useful source of references to relevant work. However, the density of information and lack of any figures are likely to scare off all but the most dedicated research student. Chapter 3 presents a new variant of LSH, a method for approximate nearest-neighbour search which is used ubiquitously by the vision applications discussed in the book.

Section 2 turns to applications in machine learning. Chapter 4 discusses efficient algorithms for k nearest-neighbour search specific to the specific domain

of classification, where only the class of the nearest neighbours need be established. Chapter 5 presents a method for locally linear regression from nearest neighbours. Chapter 6 presents interesting methods for embedding expensive distance measures in metric spaces by AdaBoost learning, and reports results on vision problems of hand shape matching and gesture recognition.

Section 3 presents four chapters on computer vision applications. Chapter 7 addresses the task of estimating 3D articulated human pose from a 2D image. Here, a variant on the LSH method is proposed, which raises the interesting idea of learning a distance measure in “output” space (pose) rather than input space (image). Chapter 8 addresses the related problem of shape matching, proposing an efficient approximation to bipartite graph matching using a histogram embedding which allows the LSH method to be applied. Chapter 9 applies the LSH method to speed up the mean shift clustering method, which requires many nearest-neighbour computations. Chapter 10 returns to shape matching, in this case 3D point clouds, and reports extensive experiments on LSH variants and query pruning methods.

While there is lots here of interest to the computer vision researcher, and all the chapters would make (and have made) worthy conference papers, the organization could be greatly improved. There is confusion whether this is a straightforward collection of papers or a book – while most chapters are self-contained and could be read in isolation, several require reference to the introduction for definitions, or refer to results in earlier chapters. The division into sections and ordering of chapters seems somewhat arbitrary, and the index provided is minimal. For someone new to this area, the introduction is unhelpful, making the book primarily useful as a jumping off point via each chapter’s bibliography. As a collection of research papers, there is a good cross-section of algorithms, vision and learning here, and some of the most interesting work in the area is covered, but inevitably in such a fast-moving area, already one notices the absence of references to important recent work. The book is attractively bound, and reasonably priced for a specialist volume at under £30, but at a time when papers can so easily and freely be obtained from authors’ own web-sites I find it hard to wholeheartedly recommend this book.

Mark Everingham
University of Leeds
email: me@comp.leeds.ac.uk

BMVA Meeting on Vision-based Biometrics

Chairs: Professor Mark Nixon and Dr Chris Solomon

This meeting was a well-attended symposium of approximately 30 people from research students to senior academics. Pleasingly, members from UK government and industry were in attendance, as well as a number of overseas visitors.

Professor Nixon opened the proceedings with a few words about the rationale of the BMVA and their recent successes in biometrics. He noted the strength of the UK machine vision community and the importance of meetings such as this to give researchers the opportunity to share and discuss ideas. He closed by mentioning the Biometric Centre of Excellence under development by Professor Mike Fairhurst (Kent), Professor Josef Kittler (Surrey) and himself, interested attendees were invited to contact Mike Fairhurst for details.

Presenters were invited to submit finished versions of their papers to the Annals of the BMVA, via Roy Davies.

The morning session opened with Nick Crook of Oxford Brookes discussing his application of non-linear transient computation to identifying gait. After a lightning tour of chaos theory and transient computation, he demonstrated an 80% correct classification of walking and non-walking sequences. This work seems especially interesting because of the biologically inspired method for object recognition. Theo Theoharis' work on 3D face and ear recognition using deformable models also draws on the use of biology in defining acceptable shape deformations based on physiological measures. He showed that the method presented here was extremely effective on publicly available databases, performing especially well on those with facial expression change.

Prathap Nair described his progress in landmark detection in 2.5D facial scans using a point distribution model. In this iterative fitting process, he takes advantage of shape and curvature measures for candidate alignments, but constrains these measures by minimising the deviation of the model from the mean shape. His work has applications in medical imaging where accurately registered scans are necessary in aiding surgeons to compare deformity correction for plastic surgery. The final paper of the morning was a presentation by Chris Solomon on his Eigen-Fit software for producing likenesses of suspects from witness descriptions. Explaining the motivation behind the software, he described the holistic approach to

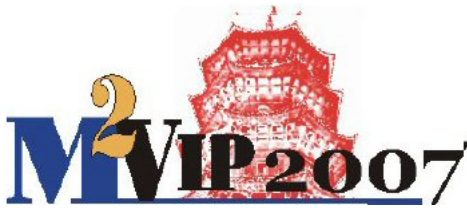
recognition used in biological systems as opposed to the component-based methods used in previous composite construction methods. He demonstrated the software and some of the training results produced during recent police trials.

The afternoon session opened with William Clocksin presenting his work on body language recognition. This consisted of two possible methods for recognising individuals as they performed a set task, using dynamic time warping for vector comparison. Whilst the results were preliminary, he was hopeful that this would perform well on larger databases and that there was scope for including behavioural or intent analysis. Simon Prince described his new paradigm for biometrics, that of latent identity variables. This acts as a problem of determining, given an identity model, how likely one is to observe the given data, rather than a measure of the distance between two sets of data in a reduced feature space. This probabilistic method showed significant advantages in face recognition under adverse pose or expressions. It also has advantages of allowing Bayesian model selection, clustering and weighting of priors. Mark Nixon finished the first afternoon session with his work on a multimodal biometric collection system. After giving some background to gait and ear recognition he explained the hardware and software deployed on the tunnel. He highlighted the fact that this is the first real-time multimodal collection system capturing 3D gait, face and ear. Mark demonstrated some of the reconstruction results from the system and produced results of an early engineering sample study of its efficacy.

In the final session of the day, Alex Bazin gave a presentation on interoperability of ISO fingerprint templates. He highlighted the importance of interoperable systems for cross-border applications and described some of the detail behind how ISO19794-2 theoretically provides such a platform. Alex described how, working with four major fingerprint vendors and four other partners, they had examined the performance of systems interoperating using the ISO standard and had examined the differences in vendors' implantations in order to improve interoperability. He explained that work is ongoing on final testing, and that development of a certification scheme for interoperability is underway. Ian Firth presented the final paper on his proof-of-concept trials of an automated surveillance system using commercial face recognition software. This was trialled at four locations within an airport using a 'watchlist' of 250 volunteer subjects. He described a number of lessons learned including the need to control the environment and eliminate blind spots, that existing systems are generally not suitable for face recognition to be bolted on and that it is important to carefully analyse behaviour at the camera locations

before deployment. In the trial Ian reported correct identification rates of about 80% with a corresponding false positive rate of approximately 8 per hour at each location.

Dr Alex Bazin
NPL
email: alex.bazin@npl.co.uk



14th International Conference on Mechatronics and Machine Vision in Practice, 2007

This conference is to be held on 4–6 December 2007 at Xiamen University, Xiamen, China.

Theme

‘Mechatronics’ has become accepted for what it is, the blending of mechanics, electronics and computer control into an integrated design. It forms the basis of an ever-growing list of products and techniques of great technical and commercial value. Mechatronic design can result in products which are much simpler than their intricate and costly predecessors and can make commonplace the miracles of yesterday. Much value-added comes from the skilful use of sensors and embedded machine intelligence. Machine vision has emerged from the laboratory among other sophisticated sensors to find real applications in areas which include inspection, fault detection, vehicle guidance and robot control. Low-cost cameras have been developed for multimedia applications, but with their ease of interfacing they offer a whole new field of low-cost vision-based control. Following the success of its thirteen predecessors, M2VIP 2007 will provide a dynamic forum for international experts and researchers to present and review advances in mechatronics and machine vision which have culminated in practical applications, or which promise practical implementation in the very near future. Theoretical or simulated applications are not encouraged.

Topics

The topics covered in the conference will include but not be limited to Medical mechatronics, consumer mechatronics (including toys/entertainment),

underwater mechatronics, aeronautical mechatronics, agricultural mechatronics, visual inspection, visual servoing and tracking, sensors and sensor fusion, building mechatronics, actuator and drive technology, intelligent control and automation, intelligent aids for the elderly and disabled, MEMS technology, and machine vision.

Submission of Abstracts:

Two-page extended abstracts should be submitted before 30 May 2007. These should include a clear descriptive title, up to two pages of plain-text abstract, summary and description of the contents of the paper to be offered, plus an indication of any ‘special’ presentation features such as video material or small working models. Send this as an email to eersbrad@cityu.edu.hk, with a subject-line starting “M2VIP2007 Abstract”, followed by a few words to identify your paper.

Make sure that your reply address is valid! Notification of selected papers will be around 1 July 2007, with a request for a full manuscript.

Submission of Final Papers:

Authors whose abstracts are selected will be encouraged to submit full papers, which will be subject to a second round of review. All accepted final papers will be included in the conference CDROM proceedings, to be published by the IEEE, if registration is received before the conference.

International Steering Committee

Professor John Billingsley (Chair), Australia
Dr Robin Bradbeer, Hong Kong
Professor Peter Brett, UK

Further Information:

For further information, see the Conference web site:

<http://www.ee.cityu.edu.hk/m2vip2007/>

or contact the Conference Chair, Dr Robin Bradbeer.

Robin Bradbeer
City University, Hong Kong
email: eersbrad@cityu.edu.hk



VIE 2007

Visual Information Engineering 2007: *Bridging the Gap between Theory and Applications*. The conference will take place on 25–27 July 2007 at the Royal Statistical Society, London.

<http://conferences.theiet.org/vie2007/index.htm>

The IET Visual Information Engineering Conference 2007 (VIE 2007) addresses the fundamental elements of image, video and graphics research and development. This year's event focuses on the key technical areas including the growing convergence of computer graphics and computer vision/image processing which is an increasingly important area in commercial multimedia applications development.

The conference provides an ideal opportunity for researchers, practitioners and educators in the VIE community to share results and advancements in a high quality, peer reviewed environment, and creates an important networking forum in which academic and industrial participants can discuss the future of VIE technologies and the convergence of imaging technologies with other domains.

At the excellent Royal Statistical Society venue in London, this event will create an important networking forum in which academic and industrial participants can meet and present their work.

Keynote speakers include:

Professor Philip Torr, Head of Computer Vision Group, Oxford Brookes University, UK: *Dynamic Markov random fields*. This talk will describe some new developments in dynamic Markov random fields and some efficient algorithms developed for their solution. Dynamic Markov random fields are time-varying and have many potential applications in vision: the talk will discuss their application to video segmentation, human pose estimation and parameter learning.

Professor Dr Ing. Oliver Bimber, Department of Augmented Reality, Bauhaus University Weimer, Germany: *The reality of Mixed Reality: problems, solutions, and trends*. This talk will discuss the latest research on Mixed Reality with reference to the

challenges of combining computer vision and computer graphics for example in the context of mobile phones and display systems.

Tutorial Programme

Professor Roy Davies, Royal Holloway, University of London, UK: *Methodology for the systematic location of objects and structures in images*.

Dr Peter Hall, University of Bath, UK: *The synergetic convergence of vision, video and graphics*.

Professor Ebroul Izquierdo, Queen Mary College London, UK: *The semantic gap in visual information retrieval*.

Dr Tamer Shanableh, American University of Sharjah, UAE: *Codec level anatomy of video transcoding*.

Important Dates

16 April 2007: Notification of acceptance

14 May 2007: Submission of camera-ready papers

To register online, visit:

<http://conferences.theiet.org/vie2007/register.htm>

For further details please contact:

Elizabeth Jarvis
The IET
email: ejarvis@theiet.org
tel: +44 (0)141 427 0735
fax: +44 (0)141 419 0812

Important note regarding this and other conference information: to be sure of getting the very latest updated/corrected information, BMVA Members should always cross-check with the relevant website. – Ed.

Reconfigurable Architecture for Real-Time Image Processing – Call for Papers

The Journal of Real-Time Image Processing (JRTIP) is to run a Special Issue on *Reconfigurable Architecture for Real-Time Image Processing*, with Guest Editor Mohamed Akil.

The performance requirements of image processing applications have continuously increased the computing power of implementation platforms, especially when they are executed under real time constraints. The image processing applications may consist of different image standards, or different algorithms used at different stages of the processing chain. The computing paradigm using reconfigurable architectures promises an intermediate trade-off between flexibility and performance. Reconfigurable architectures can exploit fine-grain and coarse-grain parallelism. Many reconfigurable architectures have been constructed specifically for image processing using different processors and dedicated circuits such as ASICs and FPGAs.

This special issue on Reconfigurable Architecture For Real-Time Image Processing is intended to present the current state-of-the-art and the most recent developments in the field of Reconfigurable Architecture for real-time image and video processing, including reconfigurable computing (architectures, computational models, data communication network and memory organization), programming frameworks, real-time implementation of embedded image processing applications on reconfigurable architectures.

Prospective authors who aim to contribute to this special issue are encouraged to submit original and unpublished papers dealing with theory and applications within the theme of Reconfigurable Architecture for Real-Time Image Processing with emphasis placed on the real-time aspects of architecture organization, reconfigurable requirements to map algorithms efficiently, low, medium level and coarse-grain algorithms, and embedded applications.

Papers and reviewers are solicited in any of the following or related areas for reconfigurable architecture but are not limited to:

Reconfigurable computing for real-time image processing

- Architectures, models and algorithms
- Coarse-grain reconfigurable architectures
- Fine-grain reconfigurable architectures

- Communication network for reconfigurable computing
- Memory organization, memory-addressing modes
- Dynamic configurable computing

Programming, compilation techniques and development environments

- Programming frameworks for coarse-grain reconfigurable architectures
- Programming frameworks with FPGA-style mapping
- Loop transformations
- Software/hardware partitioning, design space exploration

Real-time and embedded image processing applications and implementation in:

- Industrial visual inspections
- Medical imaging
- Vision applications (automotive, navigation, intelligent transport), security applications
- Interactive equipment, embedded vision sensors
- Virtual and augmented reality
- High speed image processing applications
- 2D/3D measurement systems

Important dates

Papers due: 13 July 2007

Review and revision completed: 7 September 2007

Camera-ready paper due: 5 October 2007

Submission

The guidelines for authors and reviewers are available for download from the JRTIP webpage:

<http://www.springer.com/11554>.

Submissions can be uploaded via:

<http://www.editorialmanager.com/jrtip/default.asp>

and should be indicated for consideration in the Special Issue on Reconfigurable Architecture for Real-Time Image Processing.

The issue is to be reviewed on a ‘fast track’ basis. Prior to sending full paper submissions, it is highly desired to query with a 100–200 word abstract. Authors are encouraged to contact the guest editor with the following contact information:

Professor Mohamed Akil
CNRS-UMLV-ESIEE, France
email: akilm@esiee.fr

Field-Programmable Technology for Real-Time Image Processing – Call for Papers

The Journal of Real-Time Image Processing (JRTIP) is to run a Special Issue on *Field-Programmable Technology for Real-Time Image Processing*, with Guest Editor George A. Constantinides.

Field-programmable technologies, such as the Field-Programmable Gate Array (FPGA), provide high-performance platforms for real-time image and video processing applications. Several FPGA-based architectures have been proposed to solve particular problems, such as two-dimensional filtering, wavelet transforms, and motion-vector estimation. Many of these architectures have been published in various FPGA-related conferences.

Submissions are called for a special issue of the new periodical Journal of Real-Time Image Processing on “Field-Programmable Technology for Real-Time Image Processing”. The aim of this special issue is to bring together the most recent developments, and survey the state-of-the-art in the use of programmable logic solutions for real-time image and video processing.

Prospective authors who aim to contribute to this special issue are encouraged to submit original and unpublished papers dealing with theory or practice of real-time image processing on field-programmable technology. Papers and reviewers are solicited in any of the following or related areas:

- Novel uses of FPGA architectural features, such as embedded components, to accelerate image processing.
- Real-time computer vision and motion detection on programmable logic devices.
- Reconfigurable hardware-based motion vector estimation.
- Hardware-efficient image linear and non-linear filtering architectures.
- FPGA-based edge detection and spectral transforms.
- Hardware-efficient two-dimensional wavelet architectures.
- Specialized image processing hardware compilation and synthesis for reconfigurable devices.

- Reconfigurable architectures for image compression and decompression.

Important dates

Papers due: 10 May 2007
 Review completed: 28 June 2007
 Camera-ready paper due: 5 August 2007

Submission

The guidelines for authors and reviewers are available for download on the webpage of JRTIP:

<http://www.springer.com/journal/11554>.

Submissions can be made via:

<http://www.editorialmanager.com/jrtip/default.asp>,

indicating that they should be scheduled for publishing in the Special Issue on Field-Programmable Technology.

The review process will operate on a ‘fast track’ basis: prior to sending submissions, please send a 100–200 word abstract to the guest editor for approval.

Professor George A. Constantinides
 Imperial College London
 email: george.constantinides@ieee.org

BMVA News – Items for Inclusion

Possibilities for inclusion include anything that members will find interesting and relevant:

- news (awards, events, developments ...)
- reports on meetings
- articles and reviews
- conference information
- BMVA activity information
- crosswords, puzzles, pictures, cartoons, ...
- responses to previous editorials!
- Letters to the Editor.