IAPR

NEWSLETTER

Editor
Josef Kittler
Dept. Electronic and Electrical Engineering,
University of Surrey,
Guildford GU2 5XH,
UK.
Telephone: (44 483 571281 x 2272)
kittler@uk.ac.rl.vj

Volume 10

Number 1

March 1987

Contents

News Copy Deadlines

Last date for editorial copy:
Volume 10 Number 2   20 May 1987
Volume 10 Number 3   20 August 1987

FROM THE EDITORS DESK

One of the problems which has always haunted the Editor of the IAPR Newsletter is the scarsity of material submitted for publication. While the first reaction might be to postpone the production of next issue until the available pages are filled with print, this necessarily introduces an element of randomness in the publication schedule which can only discourage the inflow of topical material in the future. I intend to overcome this chicken and egg situation by introducing a rigid production schedule , with the Newsletter appearing in March, June, September and December come what may. So if you receive a blank copy then at least you will know that the Editor is not to be blamed (at least not entirely).

On a more constructive note, I would like to see the Newsletter become a forum for the ordinary IAPR member to express his or her views, pleasure or displeasure concerning any aspect of IAPR activities or any matter affecting the IAPR community.Are you satisfied with the format of IAPR conferences? What type of activities should IAPR engage in? How can the Newsletter be improved? Your contributions should be received well

before the published deadlines for news copy to have a reasonable chance of appearing in the next issue.

This issue of the Newsletter is almost entirely devoted to the publication of the new IAPR directory as the task of appointing members of IAPR standing and ad-hoc committees and chairmen of technical committees has just been completed . Any omissions, errors or changes should be notified as soon as possible so that they can be incorporated in subsequent updates.

The Editor

NEWS IN BRIEF

K S FU AWARD FUND The donations received in response to the K S Fu Award Fund appeal launched at the 8ICPR in Paris last October now total more than US$ 21000.

TC13: PATTERN RECOGNITION AND ASTRONOMY A new IAPR Technical Committee has been formed and Prof V Di Gesù, University of Palermo, Italy has agreed to serve as its first chairman. The objective of the committee will be to bring pattern recognition to bear on problems in astronomy and astrophysics to a greater extent.

IAPR OFFICERS ELECTION PROCEDURE The newly appionted Constitution and Bylaws Committee headed by Prof J R Ullmann (UK) faces the difficult task of reviewing the workings of the IAPR Officers election procedures and the terms of reference of the Nominating Committee.

EXPERT SYSTEMS AND PATTERN RECOGNITION In October 1987 the IAPR will co-sponsor its first event in the USSR. A workshop on "Expert Systems and Pattern Recognition" is being organized in Novosibirsk at the initiative of Prof N Zagoruiko. More information should be available in the next issue of this Newsletter.

ERRORS AND FAILURES IN VISSION SYSTEMS A one day workshop on Errors and Failures in Vision Systems is being organised by TC8. The workshop will be held in London on 12 June 1987 in conjunction with the Internation Conference on Computer Vision. Further information may be obtained from Prof S Tsuji, TC8 Chairman.

CONFERENCE COSPONSORSHIPS IAPR is to co-sponsor the 4th BPRA International Conference on Pattern Recognition to be held in Cambridge, England, March 28-30, 1988 and the International Workshop on Artificial Intelligence and Industrial Applications scheduled to take place in Hitachi-City, Japan, on May 25-27, 1988.

PRESIDENTIAL MESSAGE

Over the last month I have had the privilege of appointing members to various positions within the Association. The new appointments I have had the pleasure of making reflect the appointees' willingness to devote time and energy to IAPR activities and I wish to thank them in advance for their effort and dedication. Standing Committee members and Technical Committee chairmen are listed elsewhere in this Newsletter.

As an old timer of the IAPR Executive Committee I have heard rather frequently the criticism that members were not enough, if at all, aware of activities organized under the auspices of IAPR. I had these remarks in mind at the time I appointed the members of the Publication and Publicity Committee, many of whom are journal editors and have agreed to publish IAPR information in their journals. Let me briefly summarize the situation. In the first place, this Newsletter is, and remains our preferred medium for exchanging information within IAPR and it goes without saying that its editor, Dr J Kittler is eager to recieve information from you.

The distribution of the Newsletter is confined, however, to our current membership of 21 countries. A probably wider, though overlapping dissemination of information can be achieved via the editors of "Pattern Recognition Letters", Profs. E Backer and E Gelsema. PRL is also an IAPR official publication and it should probably be recalled that IAPR has a contractual agreement with North-Holland that up to six pages per issue are available for IAPR information. In addition, Profs M Kunt and M Wajskop who are respectively the editors of "Signal Processing" and "Speech Communication" have also kindly agreed to publish IAPR announcements in their journals provided, of course, that these can be of interest to their own readership.

These are currently the means available for you to let everybody know of your activities, and I cannot but encourage you to take advantage of these facilities.

On many occasions in the past, I have expressed my concern that IAPR is still much too small. It is therefore with the greatest pleasure that I learned that our Secretary, Prof M J B Duff had received an application for membership from Portugal. I do not wish to anticipate the decision of the Governing Board regarding this application (although I am quite optimistic). Instead I like to take it as a sign that IAPR remains attractive to non-member countries and I urge the Memebrship Committee to arouse other applications.

Pierre Devijver
President

WHITHER THE ICPR'S?

Do we still want large, multiple parallel session conferences in the traditional pattern of the Association's major, biennial event? This topic was discussed at length by the Executive Committee and by the Governing Board when they met during the Paris International Conference on Pattern Recognition during October.

The choice is certainly not as simple as it may seem on the surface. On the one hand, there would seem to be good arguments supporting the view that a large, international organisation should meet at least occasionally in some way which brings together a substantial fraction of the membership; on the other hand, the sheer size of the group involved forces the meeting to be held in large, impersonal surroundings and makes social functions, such as the Conference Banquet, too large to be particularly enjoyable.

Parallel sessions are a mixed blessing. In theory, one has the choice between concentrating on one's own special interests (and, therefore, mixing with familiar colleagues) and, alternatively, broadening horizons by deliberately attending 'foreign' sessions. In practice, it doesn't seem to work that way since specialist interests tend to be thinly catered for and the 'broad' approach requires too high a level of personal organisation and careful timing to be really practicable.

Various alternative proposals have been made. One possibility which is being considered is to select a few large topic areas and to structure the ICPR as an 'umbrella' for three or four otherwise separate conferences. These would differ from the more familiar parallel sessions in that attempts would be made to keep apart each of the groups of participants which would then be more coherent in themselves, although visits to other conferences would not be ruled out. No attempt would be made to co-ordinate individual programmes with the others and it would not necessarily follow that all the conferences would be co-located. It might even be possible to offer some workshops in the same general geographical area and at about the same time as the main meetings, so that participants could attend a specialist workshop as well as the less specialised conference.

Another possibility would be to abandon the idea that IAPR should attempt to meet as a body and instead to concentrate on actively sponsoring a wider range of nationally organised events in many different countries. On the whole, one would expect these meetings to be smaller and easier to mount. The Association would then devote its energies to publicising the events and to giving help in selecting speakers, refereeing, publishing proceedings, funding, and so on.

The Conference and Meetings Committee will be considering points such as these in the near future and would be pleased to hear your views. Any comments you would like to make can be sent to the Chairman of that Committee, to me or to the Editor of this Newsletter (if you would like them published). Adverse comments will not be seen as criticism of the hard-working organisers of previous ICPRs who have always managed to make a success of their conferences. The Association has grown to a size and age when we should be re-examining our customs to see if they are still appropriate to our increasing maturity. Please spare a little time to help your committees do those things you would like to see done. Your opinions will be valued and will be taken into account when future meetings are being planned.

Michael Duff

FINPRIT

The Finnish Programme for Researach and Development in Information Technologies (FINPRIT) initiated by the Finish Ministry of Trade and Industry has reached its midway point. The programme which started in 1984 has a total budget of FIM 100 million (US$ 19 million). About 70% of the expenses are covered by the Technology Development Centre of Finland and most of the remaining 30% by the 30-40 Finnish companies participating in the programme.

The main goal is to improve the international competitiveness of Finnish industry in information technology. Co-operation between industry, universities and research institutes is an integral part of the programme.

The work essentially consists of applied technical research, and typical results will be prototypes and demonstration systems. The results will be the property of the research institutes, but the participating companies will be authorized to use the results in a specified manner.

The FINPRINT programme has five subprogrammes. Each of them consists of several projects, 21 in all. For each project there is a Technical Support Group representing research institutes and companies, and there is an Executive Committee for each subprogramme.

There is a Programme Board to promote co-operation within the programme. The subprogramme directors and the chairmen of the Executive Committees (representing participating companies) are members of the Programme Board.

The main research organizations are: the laboratories of the Technical Research Centre of Finland in Helsinki, Espoo, Tampere and Oulu, Helsinki University of Technology, the University of Oulu, Tampere University of Technology and the University of Tampere.

Some of the FINPRIT projects work in co-operation with the Nordic data technology programme. The researchers have many contacts on the personal level with the European COST, ESPRIT, ALVEY and EUREKA programmes.

The aim of the subprogramme in PATTERN RECOGNITION is to develop and acquire expertise in its industrial application. These techniques seem to be a significant competitive factor in several application areas.

Digital image processing

Low cost-image processing workstation prototypes are being developed for various application areas. In the initial phase of the project the emphasis has been on the development of image memories, an image processor based on parallel signal processors and software. The results are being used to develop image workstations with efficient PC and engineering workstation hardware. The most promising applications are editorial functions in the printing industry, technical documentation, image archiving systems, satellite image processing and some special medical applications.

Computer Vision

Two main objectives were selected from the vast field of computer vision technology: a laser range-finding system and a visual servo system. The laser range finder uses time-of-flight measurements. Scene analysis software is used to model the measured 3D environment. The results will be used to control robots and manipulators in complicated environments. The aim of the visual feedback system is the exact positioning of a robot arm using visual information.

Computer aided radiotherapy

This project is developing dose planning algorithms and applying them in a treatment modelling system. 3D image processing and manipulation is needed to make correct dose plans and to visualize the calculated results. The main aim is to improve the accuracy of radiotherapy.

Pattern recognition in ECG

An automatic analysis system is being developed for electrocardiograph signals. In the initial phase the emphasis has been on developing new pre-processing algorithms and on verification methods for ECG analysis

systems. Later on, automatic pattern recognition and knowledge-based analysis methods are to be included.

COMPUTER VISION
FOR PING-PONG PLAYING ROBOTS

A robot ping-pong contest featured in the programme of EUROMICRO 86 held in Venice last September. The organizer of the competition, Dr John Billingsley of Portsmouth Polytechnic, UK, wrote the following amusing report about the contest which is reprinted here with permission from the IFIP Newsletter.

"Venice is a city of canals and footpaths. Road traffic ceases at the huge car park at the end of the two mile bridge from the mainland. It took three long journeys with a clanking handcart to transport the Brussels robot from van to venue, and sixty thousand lira to hire a boat to take it back. In contrast, Mr John Knight's robot amply repaid his efforts to make it portable, as he carried it with ease half a mile over four humped-backed bridges from Piazzale Roma to Ca'Foscera.

The eight-strong team from Tampere University, Finland had a much easier transportation problem. They had nothing to carry at all. Despite two days of frantic telephoning, the customs officers of Milan still refused to release the machine. The Finns had made the mistake of engaging a shipping firm for transport and marking an enormous value on the insurance form. Many other robots failed to make the journey.

Robots in Conflict

The Belgian team from Free University of Brussels described their machine, OSCAR. Two CCD cameras analyse the field of view. Their images are processed to remove static objects, leaving the ball as the clear focus of interest. Since the cameras are free standing to either side of the robot, calibration is necessary to coordinate their fields of view. One accidental nudge to a camera tripod, and the lengthy process has to be repeated.

Their bat was carried on a cartesian frame mechanism, in X-Y plotter style. To reduce the necessary stringing and to halve the inertial load, each side of the horizontal cross bar was lifted by its own servomechanism. Ten centimeters or so behind the frame, a second frame was mounted. A stalk on the back of the bat enabled the bat angle to be set by the relative displacement of the two frames. Unfortunately, the second frame was not working. Their spokesman Hugo van Hamme warned the audiance not to expect too much,

explaining that OSCAR stood for *Our System Crashes At Random*.

John Knight (UK) started to describe his robot *Charlie*, as a cartesian frame surmounted by a vision system head adorned with ears. The vision system is elementary but most effective. The image is swept vertically across four photocells. The outer ones provide coarse positioning, and the head is driven laterally until the image is balanced between the centre cells. The head has in fact a stereo facility.

In mid explanation, John Knight waved a ping-pong ball mounted on a cane across the centre of the table, and the audience gasped as Charlie burst spontaneously into life to follow it.

Highly Strung Robot

The Belgians were the first to face service. With a final flurry, their robot was tuned up for action, they were ready for play. As the server button was pressed, their robot leaped into motion. Unfortunately, the two sides of the crossbar leaped in opposite directions, as the servosystems disagreed violently. Following a sharp twang, the team asked for a few minutes to repair their machine.

To fill in, a few *friendly* serves were aimed at Charlie. Vertical positioning was variable on the faster serves, but Charlie's horizontal control was perfect. To a slow serve, Charlie produced a perfect delivery, which brought thunderous applause.

At last OSCAR was ready to try again, repaired, restrung and recalibrated. Even before the ball could be launched, however, it leaped into another self-destructive paroxysm, which left Charlie the clear winner.

The 1987 final will be held 14-17 September at EUROMICRO 87 in Portsmouth, England."

IAPR DIRECTORY

Please send any corrections or changes to this directory to the IAPR Secretary Prof M J B Duff. His full address is listed in the directory.

Members of the Governing Board

Austria	Dr W Kropatsch
Belgium	Dr P A Devijver
Canada	Dr T Kasvand
	Prof C Y Suen
People's Republick of China	Prof T Chang
Denmark	Prof P W Becker
Federal Republic of Germany	Prof H Kazmierczak
	Prof H-H Nagel
Finland	Prof T Kohonen
France	Prof J-C Simon
	Prof J-P Haton
Hungary	Dr G Kozman
India	Prof D Dutta Majumder
Israel	Dr S Peleg
Italy	Prof S Levialdi
Japan	Prof M Nagao
	Prof M Takagi
Mexico	Dr A Guzman
The Netherlands	Prof E Becker
Norway	Mr E Swane
Spain	
Sweden	Prof P-E Danielsson
	Prof J-O Eklundh
Switzerland	Prof M Kunt
United Kingdom	Dr M J B Duff
	Prof J R Ullmann
United States	Prof J K Aggarwal
	Prof H Freeman
	Prof R M Haralick
	Prof T Pavlidis

Executive Committee

President	Dr P A Devijver
First Vice-President	Prof P-E Danielsson
Second Vice-President	Prof M Levine
Past-President	Prof T Sakai
Secretary	Prof M J B Duff
Treasurer	Prof H Freeman
Past-Chairman 8ICPR	Prof J-C Simon
Chairman 9ICPR	Prof T Chang
IFIP Representative	Prof H Freeman

Standing Committees

Awards	Prof J Sklansky (Chairman)
	Prof M D Levine
	Prof M Nagao
	Prof H-H Nagel
Conference and Meetings	Prof R M Haralick (Chairman)
	Prof P-E Danielsson
	Prof H-H Nagel
	Dr S Peleg
	Prof C Y Suen
	Mr E Swane
	Prof M Takagi
Constitution and	Prof J R Ullmann (Chairman)

5

Bylaws	Prof J K Aggarwal
	Prof D Dutta Majumder
	Prof H Kazmierczak
	Prof E Oja
Membership	Prof M J B Duff (Chairman)
	Prof E Backer
	Dr A Guzman
	Dr W G Kropatsch
	Prof S Levialdi
	Prof J-C Simon
Nominating	Prof T Sakai (Chairman)
	Prof J K Aggarwal
	Prof J-O Eklundh
	Prof J-P Haton
	Prof H Freeman
Publication and	Prof E Backer (Co-chairman)
Publicity	Prof E Gelsema (Co-chairman)
	Dr T Kasvand
Newsletter Editor	Dr J Kittler
	Prof M Kunt
	Prof M Nagao
	Prof M Wajskop

Technical Committee Chairmen

	Vice-President in charge	Prof P-E Danielsson
TC1	Statistical Pattern Recognition Techniques	Dr J Kittler
TC2	Structural and Syntactical Pattern Recognition	Prof A Sanfeliu
TC3	Image Pre-Processing Techniques	
TC4	Image Understanding Techniques	
TC5	Benchmarking and Software	
TC6	Special-Purpose Architectures	Dr M Kidode
TC7	Applications in Remote Sensing	Dr W G Kropatsch
TC8	Applications in Industry	Prof S Tsuji
	Robotics and Automation subcom.	Prof S Tsuji
	General Applications in Industry subcommittee	Prof M Takagi
TC9	Biomedical Pattern Recognition	Prof C C Li
TC10	Applications in Map and Line Drawing Processing	
TC11	Applications in Text Processing	Prof S N Srihari
TC12	Automatic Speech Recognition	Prof H Niemann
TC13	Pattern Recognition in Astronomy	Prof V Di Gesù

Individual Members

Dr R A Jarvis (Australia)
Prof Y-L Ma (Taiwan)
Mr S J Mrchev (Bulgaria)
Dr V-E Neagoe (Romania)
Dr C de Renna e Souza (Brazil)

National Member Organizations

Austria	Austrian Working Group for Pattern Recognition of the Austrian Computer Society, and the Austrian Association for Cybernetics
Cat A1	About 40 members
Rep	Dr W Kropatsch
Belgium	Pattern Recognition Contact Group of the SOGESCI
Cat A1	About 45 members
Rep	Dr P A Devijver
Canada	Canadian Image Processing and Pattern Recognition Society
Cat B	About 220 members
Rep	Dr T Kasvand
	Prof C Y Suen
People's Republic of China	Pattern Recognition and Machine Intelligence Committee of the Chinese Association of Automation
Cat A2	About 100 members
Rep	Prof T Chang
Denmark	Danish Pattern Recognition Society
Cat A1	44 members
Rep	Prof P W Becker
Federal Republic of Germany	Deutsche Arbeitsgemeinschaft Fur Mustererkennung
Cat B	About 450 members
Reps	Prof H Kazmierczak
	Prof H-H Nagel
Finland	Pattern Recognition Society of England
Cat A2	130 members
Rep	Prof T Kohonen
France	Pattern Recognition and Artificial Intelligence Group of AFCET (Association Francaise pour la Cybernetique Economique et Technique)
Cat B	About 300 members
Reps	Prof J-P Haton
	Prof J-C Simon
Hungary	Section of Artificial Intelligence and Pattern Recognition of the John Von Neumann Society for Computer Science
Cat A1	About 50 members
Rep	Dr G Kozman
India	Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI)
Cat A1	About 50 members
Rep	Prof D Dutta Majumder
Israel	The Israel Working Group on Pattern Recognition and Image Processing of the Information Processing Association of Israel

Cat A	About 100 members
Rep	Dr S Peleg

Italy — Working Group for Pattern Recognition of the Italian Association for Automatic Computation
- Cat A1: About 65 members
- Rep: Prof S Levialdi

Japan — Information Processing Society of Japan
- Cat B: About 350 members
- Reps: Prof T Nagao; Prof M Takagi

Mexico — Chapter on Pattern Recognition and Image Processing from the Association Mexicanade Ingenieros en Communicaciones Electricas y Electronica (AMICEE)
- Cat A1: 20 members
- Rep: Dr A Guzman

Netherlands — Nederlandse Vereniging voor Patroonherkennung en Beeldverwerking
- Cat A2: About 120 members
- Rep: Prof E Backer

Norway — Norwegian Society for Image Processing and Pattern Recognition
- Cat A1: 73 members
- Rep: Mr E Swane

Spain — The Spanish Working Group for Pattern Recognition of the CEA-IFAC
- Cat A1: 36 members
- Rep:

Sweden — Svenska Sallskapet for Automatiserad Bildanalys (SSAB) (Swedish Society for Automated Image Analysis)
- Cat B: 313 members
- Reps: Prof P-E Danielsson; Prof J-O Eklundh

Switzerland — The Swiss Association for Pattern Recognition
- Cat A1: 23 members
- Rep: Prof M Kunt

United Kingdom — British Pattern Recognition Association
- Cat B: About 300 members
- Reps: Prof M J B Duff; Prof J R Ullmann

United States of America — IEEE Computer Society
- Cat C: About 900 members
- Reps: Prof J K Aggarwal; Prof H Freeman; Prof R M Haralick; Prof T Pavlidis

Directory of Addresses

(OF: office phone HF: home phone TE: telex ME: electronic mail)

Prof J K Aggarwal
Computer and Vision Research Center
College of Engineering
University of Texas
Austin
Texas 78712 -1075
USA
OF:+1 512 4711369 HF:+1 512 4514697
EM: jka@ngp.utexas.edu.arpa

Prof E Backer
Dept. Electrical Engineering
Delft University of Technology
Postbus 5031
4 Mekelweg
2600 GA Delft
The Netherlands
OF:+31 15 786176 HF:+31 1802 2089 TE:31448 BITD-NL

Prof P W Becker
Electronic Institute
Technical University of Denmark
Bldg 344
DK 2800
Lyngby
Denmark
OF:+45 2 881566 Ext 2844 HF:+45 1 194794 TE: 37529

Prof T Chang
Dept of Automation
Tsing-Hua University
Beijing
Peking
People's Republic of China
OF:282451 Ext 2447 HF:282451 Ext 2692

Prof P-E Danielsson
Dept of Electrical Engineering
Linkoping University
S-518 83 Linkoping
Sweden
OF:+46 13 281306 HF:+46 13 172672
TE:2401-8155000 LINSYS S EM: ped@uucp.carola

Dr P A Devijver
Philips Research Laboratory
Avenue Em Van Becelaere 2
Box 8
B-1170 Brussels
Belgium
OF:+32 2 6734190 HF:+32 2 6738992 TE:61511 PHEMB B
EM: devijver@prlb2.uucp

Prof V Di Gesù
Dipartimento di Matematica
Universitá di Palermo
Via Archirafi 34
I-90123 Palermo
Italy
OF:+39 91 6162824/332977 TE:911051 IFCI I

Prof M J B Duff
Dept of Physics and Astronomy
University College London
Gower Street
London WC1E 6BT
England
OF:+44 1 3807010 HF:+44 1 3982766
TE:28722 UCPHYS G EM: mduff@uk.ac.ucl.cs

Prof D Dutta Majumder
Indian Statistical Institute
203 Barrackpore Trunk Road
700 035 Calcutta
India
OF:+91 33 526694 HF:+91 33 522475 TE:21-2210 STAT IN

Prof J O Eklundh
Dept Numerical Analysis and Computer Science
Royal Institute of Technology
S-100 44 Stockholm
Sweden
OF:+46 8 7878161 HF:+46 8 7478190 TE:10389 KTHB S
EM: !mcvax!enea!tlds!bogerd!pc

Prof H Freeman
CAIP Center, Room 605 - Hill
Rutgers University
Busch Campus
New Brunswick
NJ 08903
USA
OF:+1 201 9324208 HF:+1 609 3957034
TE:6502497820 MCI EM: freeman@caip.rutgers.edu

Prof E S Gelsema
Dept of Medical Informatics
Free University
Van der Boechorststraat 7
1081 BT Amsterdam
Netherlands
OF:+31 20 5483306

Dr A Guzman
MCC-Parallel Processing
3500 West Balcones Center Drive
Austin
TX 78759
USA
OF:+1 512 3383753 HF:+1 512 3316355
EM: guzman@mcc.com

Prof R M Haralick
Department of Electrical Engineering
University of Washington
Seattle
WA 98195
USA
OF:+1 206 5454974 HF:+1 206 5222836

Prof J-P Haton
CRIN
Universite de Nancy 1
BP 239
54506 Vandoeuvre-les-Nancy Cedex
France
OF:+33 8 3281566 HF:+33 8 3320185
TE:960646 NANCYUN F

Dr T Kasvand
National Research Council
Room 346, Bldg M-50
Montreal Road
Ottawa
Canada K1A 0R8
OF:+1 618 9932003 HF:+1 613 2255461 TE:053-4134 CA

Prof H Kasmierczak
FIM-FGAN EV
Eisenstockstrasse 12
D-7505 Ettlingen 6
Federal Republic of Germany
OF:+49 7243 992(0)-11 HF:+49 721 472442
TE:782981 FIM D

Dr M Kidode
Information Systems Laboratory
Toshiba Research and Development Center
1 Komukai Toshiba-cho
Saiwai-ku
Kawasaki 210
Japan
OF:+81 44 5112111 HF:+81 45 8622679
TE:22587,24344,24576 TOSHIBA J

Dr J Kittler
Department of Electronic and Electrical Engineering
University of Surrey
Guildford
Surrey GU2 5XH
England
OF:+44 483 571281 Ext 2272 HF:+44 483 578256
EM: kittler@uk.ac.rl.vj

Prof T Kohonen
Dept Technical Physics
Helsinki University of Technology
SF-02150 Espoo 15
Finland
OF:+358 0 4512451 HF:+358 0 428273
TE:121591 HTKK SF

Dr G Kozmann
Hungarian Academy of Sciences
Central Research Institute for Physics
POB 49
H-1525 Budapest
Hungary
OF:+36 1 699499 Ext 1839 HF:+36 1 460841
TE:224722 KFKI H

Dr W G Kropatsch
Institute for Image Processing
& Computer Graphics
Graz Research Centre
Wastiangassse 6
A-8010 GRAZ
Austria
OF:+43 316 702531-57 HF:+43 316 518465 TE:31265 A

Prof M Kunt
Département dÉlectricité
Ecole Polytechnic Federale de Lausanne
16 chemin de Bellerive
CH-1007 Lausanne
Switzerland

8

OF:+41 21 472626 HF:+41 21 992834
TE:26420 EPFVD CH EM: kunt@clsepf5l.earn

Prof S Levialdi
Dipartimento di Matematica
Università degli Studi di Roma
Piazzale Aldo Moro 2
00185 Roma
Italy
OF:+39 6 497871 Ext 252 TE:613255 INFNRO I

Prof M D Levine
Department of Electrical Engineering
McGill University
3480 University Street
Montreal, Quebec
Canada H3A 2A7
OF:+1 514 3925413 HF:+1 514 4887929
TE:5268510 MTL McGILL UNIV CA
EM: mcrcim@mcgill-vision.uucp

Prof C C Li
Department of Electrical Engineering
University of Pittsburgh
Pittsburgh
PA 15261
USA

Prof M Nagao
Department of Electrical Engineering
Kyoto University
Sakyo-ku
Kyoto 606
Japan
OF:+81 75 7512111 Ext 5344;
HF:+81 720 430933 TE:5422455 DEEKYU J

Prof H-H Nagel
Fraunhofer-Institut fur Informations-und
Datenverarbeitung-IITB
Sebastian-Kneipp-Str 12-14
D-7500 Karlsruhe 1
FR Germany
OF:+49 721 6091210 TE:7825931 IITB D

Prof H Niemann
Universität Erlangen-Nürnberg
Lehrstuhl für Informatik 5 (Mustererkennung)
Martensstrasse 3
D-8520 Erlangen
Federal Republic of Germany

Prof E Oja
Dept Computer Science and Mathematics
University of Kuopio
PO Box 6
SF-70211 Kuopio
Finland
OP:+358 971 162430 TE: 42218 KUY SF

Prof T Pavlidis
Department of Electrical Engineering
State University of New York
Stony Brook
NY 11794-2350
OF:+1 516 6328422 HF:+1 516 6898569
EM: sbcs!sbee!theo.uucp, theo@BTL.arpa

Dr S Peleg
Department of Computer Science
The Hebrew University of Jerusalem
91904 Jerusalem
Israel
OF:+972 2 585236 HF:+972 2 820642 TE:25391 HU IL
EM: pelegEM: peleg@hujics.bitnet

Prof T Sakai
Department of Information Science
Faculty of Engineering
Kyoto Univeristy
Sakyo-ku
Kyoto 606
Japan
OF:+81 75 7512111 Ext 5371 HF:+81 726 920700
TE: 5422693 LIBKYU J

Prof A Sanfeliu
Instituto de Cibernética
Diagonal 647
08028 Barcelona
Spain

Prof J-C Simon
Institut de Programmation
Université Pierre et Marie Curie
Tour 55-65
University Paris VI
4 Place Jussieu
F-75230 Paris Cedex 05
France
OF:+33 1 43266885, +33 1 4336 2525
HF:+33 1 42607936 TE: 200145 UPMCSIX F

Prof J Sklansky
Dept of Electrical Engineering
University of California
Irvine
CA 92717
USA

Prof S N Srihari
Department of Computer Science
State University of New York at Buffalo
Buffalo
NY 14260
USA
OF:+1 716 6313191 HF:+1 716 6322518
EM: srihari@buffalo.csnet
EM: srihari.buffalo-cs@csnet-relay.arpa

Prof C Y Suen
Department of Computer Science
Concordia University
1455 Boulevard de Maisonneuve West
Montreal
Quebec
Canada H3G 1M8
OF:+1 514 8483006 HF:+1 514 8483000

Mr E Swane
SINTEF
Division of Automatic Control
N-7034 Trondheim-NTH
Norway
OF:+47 7 594361, +47 7 594375
HF:+47 7 943391 TE:55620 SINTF N

Prof M Takagi
    Institute of Industrial Sciences
    University of Tokyo
    22-1, Roppongi 7 Chome
    Minato-ku
    Tokyo 106
    Japan
    OF:+81 3 4790289 HF:+81 3 4725074
    TE:02423216 ILSTYO J

Prof S Tsuji
    Dept of Control Engineering
    Osaka University
    Tayonaka
    Osaka 560
    Japan
    OF:+81 6 8441151 Ext 4615 HF:+81 798 223752
    EM: tsuji%ouicsu.handai.junet@japan.csnet

Prof J R Ullmann
    Dept of Statistics and Computer Science
    Royal Holloway and Bedford New College
    Egham Hill
    Egham
    Surrey TW20 0EX
    England
    OF:+44 784 39923 EM: uhac00z@uk.ac.rhbnc.vaxa

Prof M Wajskop
    Institut de Phonetique
    Free University of Brussels
    Avenue F-D Roosevelt 50
    B-1050 Brussels
    Belgium
    OF:+32 2 6490030 Ext 2010

CALLS FOR PAPERS

SYMPOSIUM ON IMAGE PROCESSING AND ROBOTICS FOR MICROSCOPY

Winnipeg, Manitoba, Canada- June 16-19, 1987

Program

The meeting is organized by the Microscopical Society of Canada. Contributions are invited on all aspects of image processing and robotics relating to microscopy.

Deadlines

April 1, 1987   Paper abstract

Contact

Prof R Gordon
    Departments of Botany and Radiology
    University of Manitoba
    Winnipeg
    Manitoba
    Canada R3T 2N2

1987 WORKSHOP ON COMPUTER ARCHITECTURE FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

Seattle, Washington, USA- October 5-7, 1987

Program

The workshop is sponsored by the IEEE Computer Society. Contributions are invited in the following topic areas:

- Image processing architectures
- Architectures for inference engines and rule-based systems
- Knowledge based machines and systems
- VLSI and systolic implementations
- Parallel algorithms for vision
- Parallel matching and reasoning algorithms

Deadlines

April 15, 1987	Full papers
June 1, 1987	Authors notified
July 15, 1987	Camera-ready manuscripts

Address for Paper Submission

Charles R Dyer
    Department of Computer Science
    University of Wisconsin
    1210W Dayton St.
    Madison, WI 53706
    USA

BPRA 4th INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

Cambridge, England- March 28-30, 1988

Program

The conference is organized by the British Pattern Recognition Association and co-sponsored by the IAPR through Technical Committee TC1. The programme will comprise invited and contributed papers on all aspects of pattern recognition and image processing including hardware and applications. A special focus will be on:

- Statistical and structural pattern recognition
- Algorithms for image analysis and computer vision
- Special architectures and VLSI implementations
- Knowledge based methods in image and speech understanding
- Applications in

automatic inspection and robotics
medicine
speech and waveform processing
remote sensing
document and text processing

Deadlines

Sept 30, 1987   Full papers (4000 words, 3 copies)
October 30, 1987   Authors notified
Nov 30, 1987   Camera-ready manuscripts

Paper Submission and Further Information

Dr J Kittler
Department of Electronic and Electrical Engineering
University of Surrey
Guildford GU2 5XH
England

TUTORIALS

STATISTICAL PATTERN RECOGNITION: Introduction

University of Surrey, Guildford,
England- October 5-7, 1987

The course will discuss fundamental methods of statistical pattern recognition . Several example classes will be aimed at familiarizing the participants with the material presented. The course will include seminars on application of pattern recognition methods to specific problems in which a step by step description of the design of practical pattern recognition systems will be outlined.

The topics covered will include *elements of statistical decision theory, nonparametric pattern classification, learning machines, probability density function estimation, classification error probability estimation, feature selection, feature extraction and cluster analysis.*

Course textbook: P A Devijver and J Kittler, Pattern Recognition: A statistical approach, Prentice/ Hall, Englewood Cliffs, NJ, 1982.

Course lecturers: Dr P A Devijver and Dr J Kittler

For further information and registration form write to:

Miss Susan Webber
Building R25
SERC Rutherford Appleton Laboratory
Chilton
Didcot OX11 0QX
England

STATISTICAL PATTERN RECOGNITION: Advanced Topics

University of Surrey, Guildford,
England- October 8-9, 1987

The course will feature a number of advance topics in statistical pattern recognition. In particular, it will focus on the use of contextual information in decision making with the emphasis on Markov models. The methodology will be illustrated on applications in speech recognition, image restoration, image segmentation, computer vision and character recognition.

The topics covered will include: *role of context, Markov chain, Markov mesh and Markov random field models of apriori world knowledge, Gibbs distributions, hidden Markov models, elements of compound decision theory, Baum's algorithm, Derin"s algorithm, Viterbi algorithm, labelling in hidden Markov meshes and random fields, discrete relaxation, probabilistic relaxation, learning contextual relationships, learning Markov models.*

Course lecturers: Dr P.A.Devijver and Dr J.Kittler

For further information and registration form write to:

Miss Susan Webber
Building R25
SERC Rutherford Appleton Laboratory
Chilton
Didcot OX11 0Qx
England

CALENDAR OF EVENTS

Date	Event	Location	Sponsor/Information
March 30-April 3, 1987	1987 IEEE International Conference on Robotics and Automation	Radison Hotel and Civic Center, Raleigh, NC, USA	Hary Hayman, 738 Whitaker Terrace, Silver Spring, MD 20901, USA
March 30-April 3, 1987	SPIE Conference on Optical and Optoelectronic Applied Sciences and Engineering	The Hague, The Netherlands	ANRT, 16, av. Bugeaud, 75116 Paris, France

April 22-24, 1987	Computer Analysis of Images and Patterns	Palast Hotel, Berlin, German Democratic Republic	CAIP'87 Conference Secretariat, KDT, Prasidium, WGMA, Koll. Muller, Clara Zetkin Strasse 115/117, 1086 Berlin, German Democratic Republic
April 27-29, 1987	International Symposium on Defect Recognition and Image Processing in III-V Compounds	Monterey, California, USA	Continuing Education in Engineering, University Extension, University of California, 2223 Fulton Street, Berkeley, CA 94720, USA
June 2-5,1987	5th Scandinavian Conference on Image Analysis	Grand Hotel, Saltsjobaden, near Stockholm, Sweden	Dr. Torleiv Orhaug, Conference Chairman, National Defense Research Institute, P.O.Box 1165,S-581 11 Linkoping, Sweden
June 8-11,1987	1st IEEE International Conference on Computer Vision	London,England	ICCV87, c/o IEEE Computer Society, 1730 Massachusetts Avenue, N.W., Washington , DC 20036-1903, USA
June 22-26,1987	Information Processing in Medical Imaging	Utrecht, The Netherlands	Cornelis N. de Graf, University Hospital, K.73078, Catharijnesingel 101, 3511 EGV Utrecht, The Netherlands, Tel: +31 30 372846
August 19-21, 1987	IEEE Workshop on Visual Languages	Linkoping, Sweden	Erland Jungert, FFV Elektronik AB, Agatan 22, S-582 22 Linkoping, Sweden
Sept 2-4, 1987	European Conference on Speech Technology	Edinburgh, Scotland	Secretariat, European Conference on Speech Technology, CEP Consultants Ltd, 26 Albany Street, Edinburgh EH1 3QH, UK
Sept 7-10,1987	1987 International Conference on Digital Signal Processing	Florence,Italy	Prof V Cappellini, Facolta di Ingegneria, via di S.Marta 3, 50139 Firenze, Italy
Sept 14-16, 1987	IEEE-EURASIP 5th Workshop on Multidimensional Signal Processing	Leeuwenhorst Congress Center, Noordwijkerhout, The Netherlands	Mrs Y Smits, Department of Electrical Engineering, Delft University of Technology, P.O.Box 5031, 2600 GA Delft, The Netherlands
Sept 23-25,1987	4th International Conference in Image Analysis and Processing	Cefalu,Sicily,Italy	Prof Vito di Gesu, Dipartimento di Matematica e Applicazioni, Universita di Palermo, 90123 Palermo, Italy
Sept 29 - Oct 2,1987	International Symposium on Data Analysis and Informatics	Versailles,France	INRIA, Service des Relations Exterieures, Bureau des Colloques, Domaine de Voluceau, Bp 105, 78153 Le Chesnay Cedex, France
Nov 18-20, 1987	AFCET Sixieme Congres Reconnaissance des Formes et Intelligence Artificielle	Antibes, France	AFCET, 156 boulevard Pereire, 75017 Paris, France
Jan 31 - Feb 5, 1988	SPIE Conference on Medical Imaging	Newport Beach, California, USA	SPIE, P.O.Box 10, Bellingham, WA 98227-0010, USA
March 28-30,1988	BPRA 4th International Conference on Pattern Recognition	Queens College, Cambridge, England	Dr J Kittler, Dept Electronic and Electrical Engineering, University of Surrey , Guildford GU2 5XH, England
Sept 5-8, 1988	4th European Signal Processing Conference	Grenoble, France	Eusipco-88 Conference Secretariat, Cephag-ENSIEG, BP46, 38402 St Martin d'Heres cedex, France
October 17-20, 1988	IAPR 9th International Conference on Pattern Recognition	Beijing, China	9ICPR Secretariat, Chinese Association of Automation, P.O.Box 2728, Beijing, China