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Correspondence

Termination Indicators in Programming

Dear Sir,

K. Brokate's letter¹ raises a point about the semantics of OBJ which Duce and Fielding² do not explain. The distinctness of the value denoted by the term *empty_ndc_points* is a consequence of OBJ having initial algebra semantics. Terms denote different values unless the equations say that they denote the same value. Since there are no equations in

NDC_POINTS, no two distinct terms constructed with the operators *empty_ndc_points* and $::$ denote the same value, therefore *NDC_Points* cannot be a finite set.

It is the absence of any equations rather than the presence of anything that gives the properties that Duce and Fielding explain.

Yours faithfully

R. T. O. REES
ANSA,

24 Hills Road,
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Announcements

11–13 OCTOBER 1989

Ecole Polytechnique Fédérale, Lausanne, Switzerland, DT 89, International Conference on Digital Typography and Raster Imaging

Conference co-chairs: Jacques André, INRIA-IRISA, Rennes; Roger D. Hersch, EPFL, Lausanne.

Call for papers

Aim and scope

Today's raster image processors must interpret resolution-independent page description languages. Outline character acquisition, design, manipulation and rasterisation, as well as graphic and image rendering, are of major concern to scientists and engineers involved in the development of raster imaging devices.

Authors are invited to submit papers describing original research results on the most relevant and recent developments in digital typography and raster imaging. Contributions are welcomed on any of the topic areas covered by the above theme. This includes (and is not limited to):

- shape acquisition (curve fitting)
- shape manipulation
- character design
- character representation and transformation
- character structures (generation/recognition)
- page-description languages
- rasterisation algorithms
- fast rasterisation hardware.

Full papers in English are due by 15 January 1989. Authors will be notified by 15 March 1989. Camera-ready papers are due by 29 April 1989.

The papers should contain: title, author, author's affiliation, abstract, keywords, main text, references and author's biography. All accepted papers will be published in the Conference *Proceedings*. Potential contributors are encouraged to give advance notice of their intention to submit a paper.

For more information please contact:

Dr Jacques André INRIA-IRISA – Rennes, Campus Université de Beaulieu, F-35042 Rennes Cédex, France. Tel. (33) 39 63 56 00. usenet: mcvax!inria!irisa!jandre.

Send papers to:

Dr Roger D. Hersch, LAMI/EPFL, 37 av. de Cour, CH-1007 Lausanne, Switzerland. Tel. (4121) 47 43 57. bitnet: HERSCH@CLSEP51.BITNET. Telefax: (4121) 47 39 09.

ANNOUNCEMENTS

12-16 SEPTEMBER 1988

Nice, France, Eurographics '88, 'Research, Practice and Experience'.

Following the success of Eurographics '85, France will host again Eurographics '88 at the Acropolis Nice Convention Hall

Tutorials (12-13 September)

Eleven Tutorials are being organised. They are aimed at engineers, designers, users of graphics systems, teachers and researchers. They cover the following subjects:

- GKS-3D and PHIGS, Theory and Practice
- Window Management
- PC Graphics, Projective Geometry
- Special Modellings
- Introduction to Computer Graphics Animation
- VLSI Oriented Graphics System Design
- Desktop Publishing
- Introduction to new Ray-Tracing Techniques
- Rendering Techniques in Image Synthesis
- Object Oriented Techniques in Computer Graphics.

Conference 14-16 September

The 1988 Conference programme will be broad and full, with 43 contributed papers, 3 invited papers, a special session on **Computer Graphics Applications** and four panels on **Intelligent CAD Systems, Performance Evaluation of Graphics Equipments, Standards, Present and Future** and **Superworkstations**. All these sessions will cover the most recent developments both in *hardware and software*:

- Man-Machine Interface
- Modelling
- Standards
- New Algorithms
- Artificial Intelligence
- CAD/CAM Applications.

EG '88 will be the rendezvous of the year for all specialists in the field. Keep these dates in mind: **12-16 September 1988 and come to Nice.**

For further information contact:

INRIA, Public Relations Department, Domaine de Voluceau, Rocquencourt, B.P. 105. Tél. 33 (1) 39 63 55 49. Telex 697 033F.

2-3 NOVEMBER 1988

Text Retrieval '88 London

The Institute of Information Scientists (IIS) is announcing the fifth in the successful series of two-day conferences on text retrieval to be held in November this year.

Text retrieval is a subject-field that is spreading from the text handling and retrieval technology areas of information management to encompass all 'word crunching' activities.

The Institute of Information Scientists has a leading position in the text retrieval area. It has achieved this by developing and organising state-of-the-art conferences and introductory courses and by publishing their proceedings and the definitive software directory *Text Retrieval: a Directory of Software*.

Text Retrieval '88 will be held at BAFTA, Piccadilly, London, on 2-3 November 1988,

at a cost of £165 (+VAT) for IIS members and £195 (+VAT) for non-members.

For further information, please write to:

Text Retrieval '88, Institute of Information Scientists, 44-45 Museum Street, London WC1A 1LY. Tel., (01) 831 8003/8633.

14-17 NOVEMBER 1988

Jerusalem, Israel, French-Israeli Conference on

Combinatorics and Algorithms
First announcement

Sponsors: CNRS, France; NCRD, Israel.
For information contact:

C. Weintraub, Applied Mathematics and Computer Science, Weizmann Institute of Science, Rehovot 76100, Israel; maweintr@weizmann.bitnet. Or J. Bond, LRI, Université de Paris Sud, bât. 490, 91405 Orsay, Cedex, France; bond@lri.uucp.

15-17 NOVEMBER 1988

Nîmes, France Neural Networks and their Applications

The last few years have witnessed a marked revival of interest in neural networks. Originally developed some 45 years ago in an attempt to describe the functioning of the human nervous system, work in this field was largely dropped towards the end of the 1960s after several unsuccessful attempts at implementation and the revelation that early models contained certain fundamental flaws in logic. Since the start of the 1980s, however, research on neural networks has gathered a new momentum, and new models, combining several disciplines, have been proposed. The efficiency of these models for practical problem-solving activities such as pattern recognition has been demonstrated experimentally and recent technological progress, particularly in electronics and optics, has made it possible to anticipate the appearance of economically viable implementations in the medium term. At an international level, some two hundred research organisations and industrial companies are currently active in this field, and several dozen companies are producing neural network products and services for use in industry.

The Neuro-Nîmes 88 workshop on neural networks and their applications will provide a focal point where it will be possible to take stock of this emerging industry, to survey its international applications that are either already operational or under development, to present commercially available products, and to assess the reality of industrial prospects for neural networks.

Aimed at both engineers from industry and researchers, the workshop will consist of three complementary approaches: a technical conference, a series of tutorials, and an exhibition of products and advanced prototypes.

Techniques and tools

- models for memory, learning, perception and motor control

- languages dedicated to the description and simulation of neural networks
- simulators and simulation techniques
- tools to assist the design and evaluation of neural networks
- implementation techniques (electronic, optic, molecular)

Applications

- vision and image processing
- acoustics
- speech recognition
- printed and handwritten character recognition
- robotics
- optimisation and combinatorics
- diagnostic techniques and quality control
- security, reliability and fault tolerance
- surveillance and security
- learning
- knowledge acquisition

Exhibition

From 15-17 November 1988 the workshop will host an exhibition of commercially available products, including hardware and software tools for the development of neural network applications as well as for operational applications. In addition, advanced prototypes of tools and applications from research may be demonstrated or presented as posters.

To receive a package containing practical information on the exhibition, please contact the Workshop Secretary at the address below.

Tutorials and panel sessions

The technical sessions and conferences will be complemented by panel sessions and tutorials. Given by internationally renowned experts and held on 15 November 1988, the tutorials will provide an introduction to general techniques of neural networks and survey the current state of knowledge in this field.

At present, the following tutorials are scheduled.

- Aspects of information processing in animal (vertebrate and insect) visual systems, Nicolas Franceschini, CNRS (Marseille).
- The bases of neural network modelling, Christian Jutten, INPG (Grenoble).

For information contact:

EC2, Neuro-Nîmes 88, 269-287, rue de la Garenne, 92000 Nanterre, France.

5-9 DECEMBER 1988

Santa Fe, New Mexico

ACM® Conference on Document Processing Systems.

The ACM Conference on Document Processing Systems is sponsored by the association for Computing Machinery's Special Interest Groups on Graphics (SIGGRAPH), Computer-Human Interaction (SIGCHI), and Office Information Systems (SIGOIS), in cooperation with the Los Alamos National Laboratory and SIGIR (Special Interest Group on Information Retrieval).

This inaugural international conference examines the theory, development and application of document processing systems for

generating, disseminating, searching for and viewing information.

It will bring together researchers, developers and users in the hope that the field's broad-reaching interdisciplinary diversity will foster a rich exchange of ideas and information that will help define the state of the art and future directions in document processing systems. One full day of courses will precede the conference, and technical tours will follow.

Without the following key concepts and technologies, document processing would be very different: distributed computing systems including workstation, bit-mapped displays and pointing devices; document preparation systems including digital typography, electronic printing, laser printers and page description languages; hypertext and hypermedia systems; social adaptation of and to electronic media; document bases; and linguistic tools.

Document processing also encompasses the support for and management of the document production process, through collaborative systems, shared information spaces, multimedia documents, document release management tools, and distribution through electronic networks and various storage media such as bar codes, floppy and CD-ROM discs.

For conference information, contact:
Peter Orbeton at 617/577-8500 or Orbeton.chi@xerox.com.

29 JANUARY–3 FEBRUARY 1989

Medical Imaging III, Newport Beach Marriott Hotel, Newport Beach, California, USA.

SPIE – The International Society for Optical Engineering in cooperation with the American Association of Physicists in Medicine, the American College of Radiology and the center for Devices and Radiological Health, FDA. Technical Instrument Exhibit.

SPIE's medical imaging conferences have become recognized forums for reporting state-of-the-art research in the science and engineering of the entire medical imaging process.

This conference will address the physics and statistics of image formation and processing, observer performance, picture archiving and communications systems (PACS), and interactive graphics in medical application. The aim is to consider the science, engineering and technology of the entire medical imaging process, from image formation through data manipulation, distribution and presentation to observers, to the end result of decision making and subsequent data management and archiving.

Conference Chairs: Roger J. Schneider, Center for Devices and Radiological Health, FDA; Samuel J. Dwyer III, University of Kansas Medical Center; R. Gilbert Jost, Mallinckrodt Institute of Radiology/Washington University Medical Center; Emery L. Moore, Litton Systems, Inc., Guidance and Control Systems Division, 1988 SPIE Symposium Planning Committee Chair.

Original papers have been solicited in the following areas:

Future Potential of the Several Candidate Signals for Medical Imaging

- Physiologically and morphologically sensitive signals
- Physiological and biomedical tracers and markers

● Contrast agents for various modalities

Image Formation

- Physics of image formation in all modalities
- Statistics of noise and image information encoding in all modalities
- Decision-making performance of observers in these milieus

Image Processing

- Image enhancement and restoration
- Mensuration
- Hardware
- Applications of artificial intelligence

Medical Photography

- New applications
- Video and digital systems

Digital Image Capture and Formatting

- Interfaces and standards
- Frame grabbers
- Data compression

Digital Image Display

- Devices, workstations, systems, interactive graphics

- Hardcopy devices and media

PACS System Design and Evaluation

- Medical local area networks
- Performance measures
- Prototype experience

Archives for PACS

- Short- and long-term, technologies, architectures
- Prototype experience

Further information

For an advance programme with complete technical schedule and registration information, call or write, in USA: SPIE, P.O. Box 10, Bellingham, Washington 98227-0010; Telephone: 206/676-3290 (Pacific Time); Telex: 46-7053. In Europe contact Harald Wilrich, SPIE, Koblenzer Strasse 34, D-5300 Bonn 2, Federal Republic of Germany; telephone: 0228/36 15 46; telex: 172 283 747; teletex: 228 37 47 = mwibbn; telefax: 0228/36 11 05. In the Far East: O.T.O. Research Corporation, Takeuchi Building 1-34-12 Takatanobaba, Shinjuku-ku, Tokyo 160, Japan.

For information about exhibiting in Newport Beach

In USA, please contact Sue Davis, Exhibit Manager, 503/663-1284; or SPIE Headquarters, P.O. Box 10, Bellingham, WA 98227-0010; telephone 206/676-3290. European companies interested in exhibiting at this conference may obtain information by contacting SPIE's European representative, Vicki Bastien, Le Hameau de la Blissonne, F-84100 Orange, France, Telephone (33) 90 . 34 . 83 . 89, Telex 431 349 Public-Orange V. Bastien 348389.

19–22 JUNE 1989

The 6th Scandinavian Conference on Image Analysis, at the University of Oulu, Finland.

First Announcement

The 6th Scandinavian Conference on Image Analysis (6SCIA) will be arranged by the Pattern Recognition Society of Finland from 19–22 June 1989. The conference is sponsored by the International Association for Pattern Recognition. The conference will be held at the University of Oulu. Oulu is the major industrial city in North Finland, situated not far from the Arctic Circle.

Programme

The programme will consist of invited papers and contributed papers on

- Computer vision;
- Image processing;
- Pattern recognition;
- Perception;
- Parallel algorithms and architectures;
- Applications.

The official language of the Conference is English.

Submission of Papers

Authors are invited to submit four copies of an extended summary of at least 1000 words of each of their papers to:

Professor Matti Pietikäinen,
6SCIA Program Chairman,
Dept of Electrical Engineering,
University of Oulu,
SF-90570 Oulu, Finland.
tel. + 358-81-352765
fax + 358-81-561278
telex 32 375 oylin sf
net scia@stek.oulu.fi.

The summary should contain sufficient detail, including a clear description of the salient concepts and novel features of the work. Deadline for submission of summaries is 1 December 1988. Authors will be notified of acceptance by 31 January 1989 and final camera-ready papers will be required by 31 March 1989.

Exhibition

An exhibition is planned. Companies and institutions involved in image analysis and related fields are invited to exhibit their products on posters, video or in demonstration stands. Please indicate your interest to take part by contacting the Programme Chairman.

Social Programme

A social programme will be arranged, including possibilities to enjoy the location of the conference, the sea and the midnight sun. There are excellent possibilities to make post-conference tours, e.g. to Lapland or to the lake district of Finland.

Special Notice

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