

## ARC

L'Association pour la Recherche Cognitive (ARC) is the French association for cognitive research. It was established in 1981 and numbers today about 300 members in both public and private research. *By virtue of its age and size, ARC is the third cognitive research association in the world, behind the American and Japanese associations. It is also rather exceptional in Europe, where most existing associations (e.g. in cognitive psychology or artificial intelligence) are not inherently interdisciplinary (this has made it difficult to organize at the European level so far).*

The members of ARC work in diverse field, ranging from engineering and biology to cognitive modelling: artificial intelligence, cognitive psychology, linguistics, logic, communication science as well as neural networks and neurobiology.

ARC has played a leading role in France in fostering cognitive research and in setting up training programs and graduate studies on cognitive science.

To promote its interdisciplinary approach, ARC published a newsletter and the journal *Intellectica*, and holds regular scientific meetings and summer schools.

### Membership application

Members will receive the newsletter and the journal, and will have access to the events organized by the association, such as scientific meetings and summer schools.

To apply for membership, fill out the form below to indicate your personal background (training, research areas...) and send it to Alain Grumbach, ENST, Dept d'Informatique, 46 rue Barrault, 75013 Paris, France.

After your application has been approved by the board, you will be charged a membership fee of FF 250 a year. From abroad please pay by direct bank transfer in French Francs.

## Intellectica

*Intellectica* is a journal devoted to cognitive research. It publishes theoretical and experimental contributions as well as survey articles. It covers models and architectures dealing with cognitive processes, including their development. Various areas are thus concerned: perception, motor processes, learning, language, reasoning, logic, knowledge representation, connectionist and neural models as well as epistemological questions. The range of topics also includes applications in domains such as education, ergonomics, man-machine communication or robotics. Though the journal respects the particular identity of each discipline, articles should be written for a wider scientific public. Submitted papers will thus be reviewed by at least two referees, one of whom shall not be a specialist of the subject under discussion.

Authors may submit articles (preferably typed with Word on Macintosh) in French or in English (the latter for non-French speakers only). Each article must contain a short abstract. Contributions and proposals of special issues should be sent to the Editor, *Intellectica*, LISH-CNRS, 54 boulevard Raspail, 75006 Paris, France.

Back issues available: no. 4 *Natural Logic and Argumentation* (FF 60), no. 5 *Visual Perception* (FF 80), no. 6 *Language and Cognition* (FF 60), no. 5 *untitled* (FF 60), no. 8 *untitled* (FF 60), no. 9-10 *Connectionist Models* (FF 120).

### Subscription rates

(for 1 year, 2 issues, about 300 pages): *France*: Individuals FF 130 Institutions FF 200. *Abroad*: Individuals FF 170 Institutions FF 240  
N. B. payment should be made out to ARC

Subscriptions and single-copy orders should be sent to: *France*: EC2, *Intellectica*, 269-287 rue de la Garenne, 92000 Nanterre, France  
*Abroad*: Secretariat, *Intellectica*, LISH-CNRS, 54 boulevard Raspail, 75006 Paris, France.

---

### ARC Membership Application

Last name: \_\_\_\_\_

First name: \_\_\_\_\_

Position: \_\_\_\_\_

Institution: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E-mail: \_\_\_\_\_ Fax: \_\_\_\_\_

Phone: \_\_\_\_\_

Graduate studies: \_\_\_\_\_

Areas of interest: \_\_\_\_\_  
\_\_\_\_\_

Bibliographical references: \_\_\_\_\_  
\_\_\_\_\_

\*this form will be published in the newsletter as a kind of personal presentation. So please fill out as legibly as possible (preferably typed) and send to Alain Grumbach, ENST, Dept d'Informatique, 46 rue Barrault, 75013 Paris, France.

# PATTERN RECOGNITION LETTERS

An official publication of the International  
Association for Pattern Recognition

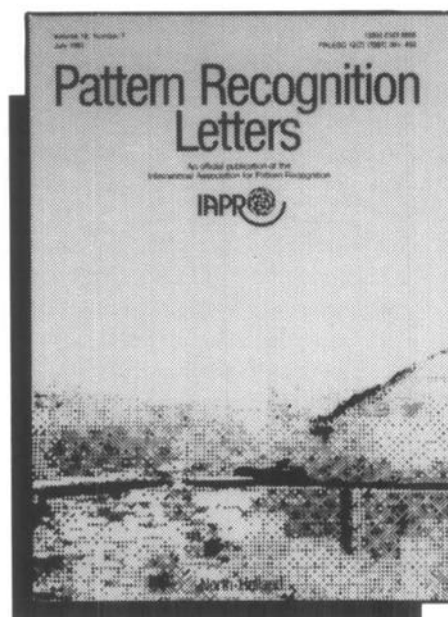
*Managing Editors: E. Backer, Department of Electrical Engineering, Delft University of Technology, Mekelweg 4, 2628 CD, Delft, The Netherlands, E.S. Gelsema, Department of Medical Informatics, Erasmus University, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands (Editorial Office)*

*Advisory Editors: R. De Mori, Montréal, Canada J. Kittler, (UK), University of Surrey, A. Rosenfeld, (USA), J.C. Simon, (France), H. Niemann, (FRG), (UK), A.K. Jain, Michigan State University, (USA), E. Diday, INRIA, (France), P.A. Devijver, ENSTBr, (France)*

*Associate Editors: R. Bajscy, (USA), M. Nagao, (Japan), M. Onoe, (Japan), W. Pedrycz, (Poland), C.Y. Suen, (Canada), I.T. Young, (The Netherlands), S.W. Zucker, (Canada), J.R. Ullmann, (UK), D. Rutovitz, (UK), T. Pavlidis, (USA), H.H. Nagel, (FRG), H. Marko, (FRG), G.H. Granlund, (Sweden), L.N. Kanal, (USA), T. Kohonen, (Finland), M. Kunt, (Switzerland), R. López de Màntaras, (Spain), S. Levisaldi, (Italy), A. Guzmán, (USA), D. Dutta Majumder, (India), O.D. Faugeras, (France) and M.J.B. Duff, (UK)*

## AIMS AND SCOPE

**Pattern Recognition Letters** takes a novel approach to the publication of research work in the field of pattern recognition. Its main features are: concise articles, rapid publication and a broad coverage.



## Subscription Information:

1992: Volume 13 (12 issues)

Subscription price:

Dfl. 933.00 / US \$ 462.00

(including postage and handling)

ISSN 0167-8655

The Dutch Guilder (Dfl.) price is definitive.

US \$ price is subject to exchange rate fluctuations



## Elsevier Science Publishers

Imprint North - Holland

---

---

### COUPON FOR A FREE INSPECTION COPY OF PATTERN RECOGNITION LETTERS

Send this form, or a photocopy to:

**Elsevier Science Publishers**

Imprint North - Holland

Attn: Petra van der Meer

P.O. Box 103,

1000 AC Amsterdam, The Netherlands

For customers in the USA and Canada:

**Elsevier Science Publishers**

Attn: Journal Information Center

P.O. Box 882

Madison Square Station

New York, N.Y. 10159 U.S.A.

Name: \_\_\_\_\_

Professional Address: \_\_\_\_\_

# The knowledge engineering review

## Notes for Contributors

Contributions for publication should be addressed to Dr John Fox, Editor, The Knowledge Engineering Review, Biomedical Computing Unit, PO Box 123, Lincoln's Inn Fields, London WC2A 3PX, England, Dr Peter Jackson, North American Editor, Department of Electrical and Computer Engineering, Clarkson University, Potsdam, NY 13699-5720, USA; or may be submitted through a member of the Editorial Advisory Board (address inside front cover). Submission implies that the manuscript has not been published previously nor currently submitted for publication elsewhere.

All contributions, whether articles, correspondence or reviews, must be sent in triplicate and typed on one side of the paper, with wide margins and double-line spacing throughout. Any minor corrections should be made neatly in the typescript, leaving the margins clear. The author is invited to nominate up to five possible referees, who will not necessarily be used.

Articles must be accompanied by a brief, informative rather than indicative, abstract. Headings should be set out clearly but not underlined. Primary headings should be in lower case, at margin, with arabic numeral; subheadings should be numbered 2.a., 2.b., etc., and tertiary headings, 2.a.1., 2.a.2. No cross-references should be given by page number, but 'above' and 'below' should be used with the section specified, e.g. Section 2.a.2. The SI system of units should be used. The author should mark in the margin of the manuscript where figures and tables may be inserted. References to points in larger works should, where possible, quote the page reference, e.g. Ager, 1981, p. 102.

Tables should be typed with double-line spacing on sheets separate from the running text. Each table must have a caption that will make the data in the table intelligible without reference to the text.

Illustrations should be drafted for reproduction as full page (148 mm) width. Originals should normally be drawn at twice final area and must be sent in a flat package; larger drawings may delay publication. Lettering should be of a size so that when reduced the smallest lower-case letters will not be less than about 1 mm. Avoid gross disparities in lettering size on a drawing. Duplicates of illustrations should be sent, and may be prints or, preferably, photocopies reduced to final size. Illustrations in the text, both line drawings and photographs for halftone reproductions, will be referred to as figures (Fig. 2, 2a, etc.). Folding plates will not be accepted. Figures composed of photographs should be glossy prints presented at publication scale. Figure captions must be typed with double-line spacing on sheets separate from the running text.

The accuracy of references is the responsibility of authors. References must be double-spaced and spelt out in full, e.g.

Gale, W A, ed 1986. *Artificial Intelligence and statistics*, Reading, Massachusetts: Addison-Wesley

Pearl, J 1984. *Heuristics. Intelligent search strategies for problem solving*, Reading, Massachusetts: Addison-Wesley

Tie-Cheng Wang and Bledsoe, W W, 1987. "Hierarchical deduction" *Journal of Automated Reasoning* 3 (1) pp1-34.

Pau, L F, 1986. "Survey of expert systems for fault detection, test generation and maintenance" *Expert Systems*, 3 (2) pp 100-111.

Twenty Five offprints of each paper will be provided free of charge. Additional offprints may be purchased according to a set scale of charges if ordered when the proofs are returned.

# The knowledge engineering review

VOLUME 7 NUMBER 2 JUNE 1992

---

## Contents

Editorial: Methodologies for knowledge engineering JOHN FOX	95
Model papers for <i>The Knowledge Engineering Review</i> JOHN FOX	97
Overview of current practice and research initiatives for the verification and validation of KBS T. J. LYDIARD	101
Principles and practice in verifying rule-based systems ALUN D. PREECE, RAJAN SHINGHAL and AIDA BATAREKII	115
Verifying knowledge bases: A bibliography	143
Knowledge-based systems, Lisp, and very high level implementation languages ERIC SANDEWALL	147
Trends in applying abstract interpretation ANDREW BOWLES	157
Book reviews	173
From the journals	179

ISSN 0269 8889

## CAMBRIDGE UNIVERSITY PRESS

Published by the Press Syndicate of the University of Cambridge  
The Pitt Building, Trumpington Street, Cambridge CB2 1RP  
40 West 20th Street, New York, NY 10011-4211, USA  
10 Stamford Road, Oakleigh, Victoria 3166, Australia

Typeset by Paston Press, Loddon  
Printed in Great Britain by Henry Ling Ltd, Dorchester