

Model papers for *The Knowledge Engineering Review*

Analysis papers
Applications surveys
Tools, techniques and case reviews
Commentaries, critiques and personal views
Grey pages
Book reviews

The models suggested here illustrate the kinds of paper that the editors of the *Review* would like to see. These models are only suggestive, however, and the editors are happy to discuss ideas for types of article other than those outlined here. In addition, we welcome approaches from anyone interested in contributing material on any topic which they think will be of general interest to the knowledge engineering community.

Analysis papers

These papers are intended to be high quality, foundational surveys providing a balanced but critical presentation of the primary concepts in a field. Authors are encouraged to make a personal contribution by their informed assessment of progress in an area, or by technical or conceptual analysis. If the literature on the topic is substantial, then representative, annotated bibliographies of major reference material are highly desirable:

- Introduction and review.
- Overview of primary literature and main themes on the topic.
- Critical assessment of major concepts; important directions in research and/or development, etc.
- Discussion of implications for practical engineering.
- Bibliography/further reading.

Examples

‘What is a deep expert system?’ Elpida Keravnou and John Washbrook, 4(3,) 205–234, 1989.

‘Deductive database theories’ John Grant and Jack Minker, 4(4) 267–304, 1989.

‘Natural language interfaces to databases’ Anne Copestake and Karen Sparck-Jones, 5(4) 225–250, 1990.

‘Constraint logic programming’ Pascal Van Hentenryck, 6(3) 151–194, 1991.

‘A review and synthesis of user modelling in intelligent systems’ Andre J Kok, 6(1) 21–48, 1991.

Applications surveys

The *Review* will publish surveys and critical assessments of the application of knowledge-based systems and AI in specific application areas (administration, commerce, engineering, law, medicine, etc.) and the development of knowledge engineering and applied AI in different countries. These surveys are, however, normally only of interest if general features of the developments or trends are clearly identified, or experiences drawn out which are of interest to an international audience. Discussion of applications which challenge the state of the art in knowledge engineering, or raise substantive issues for AI, are of particular interest:

- Background—characteristics and constraints of the application area.
- Survey of work.
- Critical assessment of trends; progress; prospects.
- Bibliography/further reading.

Examples of area surveys

Artificial intelligence in engineering two special issues edited by Paul Chung, covering control systems, aerospace and mechanical, power, construction and process engineering, 5(2,3) 1990.

'Medical AI systems as appropriate technology for developing countries' Kathleen King and Howard Beck, 5(4) 251–264, 1990.

'Qualitative reasoning and decision support systems; lessons from medicine' John Fox and Paul Krause, 7(1) 19–34, 1992.

Tools, techniques and case reviews

Contributions will be assessed on the degree to which they identify general lessons from experience with particular tools or techniques, or working on particular applications or domains. The papers should provide enough background to permit readers to distinguish general observations from idiosyncratic features of the tool application. Anecdotal discussion of cases is not normally appropriate; formal evaluations of performance or design features, and systematic analyses of tools and techniques are highly desirable:

- Introduction and overview.
- Background to the projects.
- Project description.
- General lessons. Assessment of tools, techniques, etc.

Examples

'A comparative exploration of concurrent logic languages' Graem A Ringwood, 4(4) 305–332, 1989.

'Efficient knowledge representation systems' Dario Giuse, 5(1) 35–50, 1991.

'Functional programming languages for AI problem solving' Eleanor Bradley, 223–236, 1991.

Commentaries, critiques and personal views

The purpose of these articles is to dissent from received wisdom, debunk fashions, demand recognition for unfashionable concepts, etc. Critiques may be colourful, but should always be well informed and carefully prepared:

- Precis of principal features of field or subject.
- Argued objections or proposals.
- Discussions of practical implications.
- Bibliography.

Examples

'An AI view of the treatment of uncertainty' Alessandro Saffiotti, 2(2) 75–98, 1987, with responses by Dominic Clark, Jim Baldwin, Hamid Berenji, Paul Cohen, Didier Dubois, John Fox, John Lemmer, Henri Prade, Phillippe Smets, David Spiegelhalter, Lotfi Zaden.

'Lighthill 17 years on' Martin Lam, 5(4) 265–276, 1990 with comments on Lam's article by Peter Jackson, John McCarthy, Donald Michie, Karen Sparck-Jones, Yorick Wilks.

Grey pages

Each year many small and medium sized workshops and conferences are organized on emerging topics in and around AI and knowledge engineering. Such meetings are often stimulating, and sometimes seminal, but attendance is limited and the proceedings only make it into the 'grey

literature' if they are published at all. *Grey Pages* are intended to provide a platform for conference organizers to tell a broad audience about developments in new areas which are expected to become important to the applied AI or knowledge engineering communities. Unlike many conference reports, which simply describe a few flashpoints, we are looking for short but thoughtful pieces providing a brief presentation of the *subject* of the workshop and interesting developments, rather than a blow-by-blow summary of papers. In effect we are looking for 'mini papers' which alert readers (and the editor) to topics that should be watched, and perhaps treated in more detail as a regular *Review* article. Articles in *Grey Pages* will be bound with the normal journal and fully citable. Articles of about 1000–2000 words can be submitted to the editor by email (J_FOX@UK.AC.ICRF) in plain ASCII text please. For speed the decision about publication will be taken by the editor; the report will appear, if accepted, in the next issue of the *Review*.

Book reviews

The typical length of a book review is approximately 1000–1500 words, of which approximately half should be introductory general background and discussion, and half commentary on the book. Contact the editor for a list of books currently available for review