

SUBSCRIPTIONS

Theory and Practice of Logic Programming (ISSN 1471-0684), is published bi-monthly in January, March, May, July, September and November by Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge, CB2 8RU, UK/Cambridge University Press, 32 Avenue of the Americas, New York, N.Y. 10013-2473. The subscription price (excluding VAT) of Volume 13, 2013 is £391 net (USA, Canada and Mexico US\$653), for institutions print and electronic or £331 net, (USA, Canada and Mexico US\$525) electronic only, single parts cost £66, \$110 plus postage. Discounted individual rates (print only) are £88, \$142. There is a preferential rate for members of The Association of Logic Programming and The Association of Computing Machinery – please enquire. Six parts form a volume. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Orders, which must be accompanied by payment, may be sent to any bookseller, subscription agent or to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge, CB2 8RU, or in the USA, Canada and Mexico to Cambridge University Press Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, New York 10994-2133. Prices include delivery by air where appropriate. Periodicals postage paid at New York, NY and at additional mailing offices, Japanese prices are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo, 156, Japan. Postmaster: send address changes in USA, Canada and Mexico to Journal of Theory and Practice of Logic Programming, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133. Claims for missing issues should be made immediately on receipt of the subsequent issues.

© Cambridge University Press 2013

INSTRUCTIONS TO AUTHORS

Aims and scope

Theory and Practice of Logic Programming is an international journal that publishes refereed papers covering both the theory and the practice of logic programming. Among the topics covered are AI applications that use logic programming, logic programming methodologies, specification, analysis and verification of systems, inductive logic programming, multi-relational data mining, natural language processing, knowledge representation, nonmonotonic reasoning, semantic web reasoning, databases, implementations and architectures and constraint logic programming.

TPLP is the sole official journal of the Association for Logic Programming (<http://logicprogramming.org/>) and is offered to its members at a preferential rate. It is also endorsed by SPARC, the Scholarly Publishing & Academic Resources Coalition (URL: www.arl.org/sparc).

Submission of manuscripts

Electronic submissions: The preferred form of submission is to send two email messages, the first one with the information containing the title, the author(s), and the abstract of the submission, and the second one with a PDF or a Postscript file. Both emails should be sent to the appropriate Area Editor with a copy to the Editor-in-Chief. If in doubt about the most appropriate area, contact the Editor-in-Chief.

Paper submissions: These are also acceptable, but their handling may be delayed (four copies to the appropriate Area Editor and one copy to the Editor-in-Chief).

The submitted manuscripts should not be published or simultaneously submitted to another journal or to a conference. Full versions of important conference papers are welcome. Upon acceptance of an article by the journal, the author(s) will be asked to transfer copyright of the article to Cambridge University Press.

Book Reviews

Books for review, or suggestions for reviews, should be sent to the book reviews editor.

Technical notes

Technical notes should not exceed 5000 words in length, excluding tables, figures, and the bibliography. They are given quick turnaround and should be submitted, preferably electronically, to the Technical Notes editor. Submissions should include an abstract and a reasonable accurate word count for the paper (excluding tables and figures, and the bibliography).

Electronic manuscripts

The publisher encourages the submission of final manuscripts written in LaTeX which can be used for direct typesetting. Authors can download style files from the CUP anonymous ftp site in a packed or unpacked form. The packed form is available from: <ftp://ftp.cambridge.org/pub/texarchive/journals/latex/tp-cls> and the unpacked files are in a directory /unpacked.

Layout

Manuscripts should begin with an abstract of not more than 300 words at the end of which are 4 or 5 keywords. Avoid footnotes whenever possible. Papers should conform to a good standard of English prose; please consult a style guide such as 'The Elements of Style' by Strunk and White, Macmillan, New York. Presenting Programs in one of the following two styles is encouraged: either with identifiers in italic and keywords in bold or entirely in a fixed-width teletype font. Do not begin a sentence with a symbol or identifier name.

Illustrations

Supply these as eps files as the publisher cannot use original TeX files of illustrations. A hardcopy printout needs to be supplied of each illustration.

References

The Harvard system of references should be used. See style files.

Proofreading

Be sure to submit papers in their final form. Typographical and factual errors only may be changed at proof stage. The publisher reserves the right to charge authors for extensive changes to their paper. No page charge is made. The spelling policy of the journal is to follow author's American or British spelling as long as it is consistent within the paper.

Offprints

A free pdf of the published article will be supplied to each first named author. Papers offprints may be purchased upon request.

Please contact the editors for additional information or clarification of anything above.

COPYING

The journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA, 01923, USA. Organisations in the USA who are also registered with the CCC may therefore copy material (beyond the limits permitted by sections 107 and 108 of the US copyright law) subject to payment to CCC of the per-copy fee of \$16.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 1471-0684/12 \$16.00. Organisations authorised by the Copyright Licensing Agency may also copy material subject to the usual conditions.

ISI Tear Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorised to supply single copies of separate articles for private use only. For all other use, permission should be sought from Cambridge UK or the American Branch of Cambridge University Press.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

Printed in the UK by MPG Books Ltd

Theory and Practice of Logic Programming

VOLUME 13 PART 2 MARCH 2013

Contents

Regular papers

- 147 Introduction to the special issue on the 25th annual GULP conference
WOLFGANG FABER AND NICOLA LEONE
- 149 Autonomous agents coordination: Action languages meet $CLP(\mathcal{F}\mathcal{D})$ and Linda
AGOSTINO DOVIER, ANDREA FORMISANO AND ENRICO PONTELLI
- 175 Generalization strategies for the verification of infinite state systems
FABIO FIORAVANTI, ALBERTO PETTOROSSO, MAURIZIO PROIETTI AND VALERIO SENNI
- 201 Reasoning about actions with Temporal Answer Sets
LAURA GIORDANO, ALBERTO MARTELLI AND DANIELE THESEIDER DUPRÉ
- 227 Consistent query answering via ASP from different perspectives: Theory and practice
MARCO MANNA, FRANCESCO RICCA AND GIORGIO TERRACINA
- 253 Parallel instantiation of ASP programs: techniques and experiments
SIMONA PERRI, FRANCESCO RICCA, AND MARCO SIRIANNI
- 279 Well-definedness and efficient inference for probabilistic logic programming under the distribution semantics
FABRIZIO RIGUZZI AND TERRANCE SWIFT

Endorsed by  SPARC

Cambridge Journals Online

For further information about this journal
please go to the journal website at:
journals.cambridge.org/tlp



MIX
Paper from
responsible sources
FSC® C018575

CAMBRIDGE
UNIVERSITY PRESS