September 1992 Volume 18, Number 3

Computational Linguistics

Special Issue on Inheritance: II

Articles

Making DATR Work for Speech: Lexicon Compilation in SUNDIAL	François Andry, Norman M. Fraser, Scott McGlashan, Simon Thornton, and Nick J. Youd	245
Inheritance and Complementation: A Case Study of *Easy* Adjectives and Related Nouns	Dan Flickinger and John Nerbonne	269
A Practical Approach to Multiple Default Inheritance for Unification-Based Lexicons	Graham Russell, Afzal Ballim, John Carroll, and Susan Warwick-Armstrong	311

Technical Correspondence

Automatic Clustering of Languages	Vladimir Batagelj, Tomaž Pisanski, and Damijana Keržič	339

Book Reviews

Towards a Theory of Cognition and Computing J. Gerard Wolff	*Reviewed by* Philip Swann	353
Papers in Laboratory Phonology I: Between the Grammar and Physics of Speech John Kingston and Mary E. Beckman, eds.	*Reviewed by* Scott Meredith	357
Sémantique et Recherches Cognitives François Rastier	*Reviewed by* Jean-Pierre Corriveau	360
Computational Morphology: Practical Mechanisms for the English Lexicon Graeme D. Ritchie, Graham J. Russell, Alan W. Black, and Stephen G. Pulman	*Reviewed by* Evan L. Antworth	365
Intelligent User Interfaces Joseph W. Sullivan and Sherman W. Tyler, eds.	*Reviewed by* Paul Luff	368
Adaptive Parsing: Self-Extending Natural Language Interfaces Jill Fain Lehman	*Reviewed by* Julia Johnson	374
Generalized LR Parsing Masaru Tomita, ed.	*Reviewed by* Giorgio Satta	377
Literature and Cognition Jerry R. Hobbs	*Reviewed by* Janyce Wiebe	382
Briefly Noted		388

Published Quarterly by the MIT Press for the Association for Computational Linguistics

Computational Linguistics ISSN 0891-2017

Editor

James F. Allen
University of Rochester
Computer Science Department
Rochester, NY 14627, USA
(+1 716) 275-5288
acl@cs.rochester.edu

Managing Editor

Donald E. Walker
Bellcore, MRE 2A379
445 South Street, Box 1910
Morristown, NJ 07960-1910, USA
(+1 201) 829-4312
walker@flash.bellcore.com

Associate Editor

Robert C. Berwick
Massachusetts Institute of Technology
Artificial Intelligence Laboratory
Cambridge, MA 02139, USA
(+1 617) 253-8918
berwick@ai.mit.edu

Book Review Editor

Graeme Hirst
University of Toronto
Computer Science Department
Toronto, CANADA M5S 1A4
(+1 416) 978-8747
gh@ai.toronto.edu

The FINITE STRING Editor

Ralph M. Weischedel
BBN Systems & Technologies
10 Moulton Street
Cambridge, MA 02138, USA
(+1 617) 873-3496
weischedel@bbn.com

Squibs and Discussions co-editors

James Pustejovsky
Brandeis University
Computer Science, Ford Hall
Waltham, MA 02254, USA
(+1 617) 736-2709
jamesp@cs.brandeis.edu

Robert J. P. Ingria
BBN Systems & Technologies
10 Moulton Street
Cambridge, MA 02138, USA
(+1 617) 873-3582
ingria@bbn.com

Editorial Board Members

1990–92:

Kenneth Church, AT&T Bell Laboratories
Julia Hirschberg, AT&T Bell Laboratories
Robert Moore, SRI International
James Pustejovsky, Brandeis University
Stuart Shieber, Harvard University
Susan Warwick, University of Geneva

1991–93:

Eduard Hovy, USC/Information Sciences Institute
Paul Jacobs, General Electric
Robert Kasper, Ohio State University
Diane Litman, Columbia University
Graeme Ritchie, University of Edinburgh
Richard Sproat, AT&T Bell Laboratories
Oliviero Stock, Inst. for Scientific
& Technological Research

1992–94:

Jared Bernstein, SRI International
Edward J. Briscoe, University of Cambridge
Peter F. Brown, IBM/TJ Watson Research Center
Sandra Carberry, University of Delaware
Robert Dale, University of Edinburgh
Mary Dalrymple, Xerox-Palo Alto Research Center
Pierre Isabelle, CWARC Communications
Yuji Matsumoto, Kyoto University
John Nerbonne, German Research Center for AI
K. Vijay-Shanker, University of Delaware

September 1992 Volume 18, Number 3

Computational Linguistics

Special Issue on Inheritance: II

Articles

Making DATR Work for Speech: Lexicon Compilation in SUNDIAL	François Andry, Norman M. Fraser, Scott McGlashan, Simon Thornton, and Nick J. Youd	245
Inheritance and Complementation: A Case Study of *Easy* Adjectives and Related Nouns	Dan Flickinger and John Nerbonne	269
A Practical Approach to Multiple Default Inheritance for Unification-Based Lexicons	Graham Russell, Afzal Ballim, John Carroll, and Susan Warwick-Armstrong	311

Technical Correspondence

Automatic Clustering of Languages	Vladimir Batagelj, Tomaž Pisanski, and Damijana Keržič	339

Book Reviews

Towards a Theory of Cognition and Computing J. Gerard Wolff	*Reviewed by* Philip Swann	353
Papers in Laboratory Phonology I: Between the Grammar and Physics of Speech John Kingston and Mary E. Beckman, eds.	*Reviewed by* Scott Meredith	357
Sémantique et Recherches Cognitives François Rastier	*Reviewed by* Jean-Pierre Corriveau	360
Computational Morphology: Practical Mechanisms for the English Lexicon Graeme D. Ritchie, Graham J. Russell, Alan W. Black, and Stephen G. Pulman	*Reviewed by* Evan L. Antworth	365
Intelligent User Interfaces Joseph W. Sullivan and Sherman W. Tyler, eds.	*Reviewed by* Paul Luff	368
Adaptive Parsing: Self-Extending Natural Language Interfaces Jill Fain Lehman	*Reviewed by* Julia Johnson	374
Generalized LR Parsing Masaru Tomita, ed.	*Reviewed by* Giorgio Satta	377
Literature and Cognition Jerry R. Hobbs	*Reviewed by* Janyce Wiebe	382
Briefly Noted		388

Copyright ©1992 by the Association for Computational Linguistics. The following code, 0891-2017/92, indicates the copyright owners' consent that a single copy of an article may be made for personal use. The consent is given, however, on the condition that the copier pay the stated per-copy fee of $3.00 through the Copyright Clearance Center, Inc., 27 Congress Street, Salem, MA 01970, USA, for copying beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Such permission requests and other permission inquiries should be addressed to the Managing Editor at the address given on the inside front cover of this issue.

Computational Linguistics is abstracted and/or indexed in the following publications: *Annual Review of Information Science and Technology, Computer Abstracts, Computing Reviews, Current Contents: Social and Behavioral Sciences, Knowledge Engineering Review, Language and Language Behavior Abstracts, Linguistic Abstracts, Linguistic Bibliography, Science Abstracts* (INSPEC Section C), and *Social Sciences Citation Index.*

Volume 14 and subsequent volumes of *Computational Linguistics* are available on microfilm through University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106, USA.

Individual Subscriptions to *Computational Linguistics* are available only with membership in the Association for Computational Linguistics (ACL). Annual Membership Dues are as follows: *regular*, $25.00; *student* — taking a full-time program of courses and not earning a regular income, $15.00; *joint* — for couples receiving one subscription, $30.00. A membership application together with an order form for back issues and conference proceedings is included at the end of this issue. Send membership applications and address changes to Dr. Donald E. Walker (ACL), Bellcore, MRE 2A379, 445 South Street, Box 1910, Morristown, NJ 07960-1910, USA. However, note that it is also possible to pay through banks in Switzerland and Japan.

Institutional Subscriptions are $75.00. Outside the U.S. add $14.00 postage and handling. Canadian subscribers also add 7% GST. Send institutional subscription orders and address changes to MIT Press Journals, 55 Hayward Street, Cambridge, MA 02142-1399, USA. To be honored free of charge, claims for missing copies must be made immediately upon receipt of the next published issue. Institutions should order back issues (before 1988) and all proceedings from the ACL at the address above.

Editors' Note

Inheritance mechanisms and their implications for description, theory, and processing have become an increasingly important research topic in computational linguistics. In two special issues of *Computational Linguistics*, a sample of current research in this area will be presented.

Volume 18, Number 2

In "Inheritance in Natural Language Processing," Daelemans, De Smedt, and Gazdar outline some of the motivations that have led to the widespread use of inheritance mechanisms in computational linguistics and provide a survey of the recent literature.

Bouma, in "Feature Structures and Nonmonotonicity," introduces default unification as a means of reconciling inheritance with unification grammars. A formalism based on monotonic multiple inheritance in networks of typed feature structures is proposed in Zajac's paper "Inheritance and Constraint-Based Grammar Formalisms."

Some linguistic frameworks have explicitly incorporated inheritance into their theories. One of these is described "Inheritance in Word Grammar" by Fraser and Hudson.

While most work has used inheritance networks as a means to store static information, a number of researchers have also begun to explore their utility in language processing. An example of this is provided by van der Linden in "Incremental Processing and the Hierarchical Lexicon."

Volume 18, Number 3

The main area of application of inheritance networks has been the structure and organization of computational lexicons. In the second of the two special issues, three alternative approaches to inheritance in lexical representation are presented.

Andry, Fraser, McGlashan, Thornton, and Youd employ a DATR lexicon in the context of a Unification Categorical Grammar in "Making DATR Work for Speech: Lexicon Compilation in SUNDIAL."

In "Inheritance and Complementation: A Case Study of Easy Adjectives and Related Nouns," Flickinger and Nerbonne apply a default inheritance framework to the lexical representation of complementation phenomena.

Finally, Russell, Ballim, Carroll, and Warwick-Armstrong introduce a language for defining multiple default inheritance networks for the lexicon, inspired by object-oriented programming, in "A Practical Approach to Multiple Default Inheritance for Unification-Based Lexicons."

Walter Daelemans
Gerald Gazdar, Guest Editors

© 1992 Association for Computational Linguistics