ADVANCES IN ARTIFICIAL INTELLIGENCE

edited by
TIM O'SHEA

North-Holland

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ARTIFICIAL INTELLIGENCE

Sixth European Conference on
Artificial Intelligence, ECAI-84
Pisa, Italy, September 5-7, 1984

Organised under the auspices of
The European Coordinating Committee for
Artificial Intelligence

Sponsored by
AICA and AISB

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Tim O'SHEA
The Open University
Milton Keynes
United Kingdom

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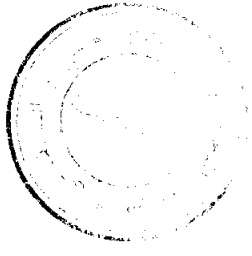

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PREFACE

This book is an edited version of the Proceedings of the Sixth European Conference on Artificial Intelligence held in Pisa in September, 1984. The conference was organised under the auspices of the European Co-ordinating Committee for Artificial Intelligence and sponsored by AICA and AISB.

251 papers were submitted for consideration in 15 different subfields. Each subfield was chaired by an experienced and respected worker in A.I. who received reports on each submission from two referees with appropriate publication records. Papers on which there was not an initial consensus were sent to additional members of the Programme Committee. This Committee was nominated by the various European A.I. societies. The paper selection process depended on considerable work from the Subfield Chairmen, Referees and Programme Committee.

For the purposes of this volume, I have made a selection from the prize-winning papers and the long papers in the Proceedings volume and have organised them into five main general areas, namely, Expert Systems, Robotics and Vision, Cognitive Modelling and Learning, Natural Language and Knowledge Representation. I regret that limitations of space made it impossible to include more of the papers presented at the conference. This selection consists of about 15% of the papers originally submitted.

On the acknowledgements page I have listed all those who helped in the preparation of the conference programme and proceedings. I would like to single out two people, the Programme Secretary, Diane Mason for her patient and heroic contributions to the conference, the proceedings and this edited book, and the General Chairman, Stefano Cerri who ensured that the whole event was carried out with tremendous flair, efficiency and style.

Tim O'Shea
Programme Chairman,
SIXTH European Artificial Intelligence Conference.

ACKNOWLEDGEMENTS

Subfield Chairmen

L. Aiello (Rome) - Theorem Proving
G. Albers (Karlsruhe) - Industrial Applications
P. Ambler (Edinburgh) - Robotics
W. Bibel (Munich) - Automatic Programming
M. Boden (Brighton) - Philosophical Implications
J. Breuker (Amsterdam) - Cognitive Modelling
H. Coelho (Lisbon) - Knowledge Representation
P. Greussay (Paris) - System Support
G. Hagert (Uppsala) - Learning
G. Koch (Copenhagen) - Logic Programming
J. Laubsch (Stuttgart) - Lisp Systems
C. Mellish (Brighton) - Natural Language
B. Neumann (Hamburg) - Vision
M. Somalvico (Milan) - Planning and Search
L. Steels (Brussels) - Expert Systems

Other Members of Programme Committee

E. Sara (Milan), J. de Bruin (Amsterdam), I. Futo (Budapest), W. Horn (Vienna) J-P. Jounnaud (Nancy), D. Kayser (Paris), R. Mantaras (Barcelona), R. Mohr (Paris), S. Ohlsson (Uppsala), G. Prini (Pisa), P. Ross (Edinburgh), P. Szerdi (Budapest), H. Trost (Vienna), K. Vershinin (Kiev), W. Wahlster (Saarbruecken), Y. Wilks (Clacton).

Referees

M. Allard, H. Alshawi, P.B. Andersen, G. Attardi, D.P. Barnes, M. Bidoit, B. Boguraev, M. Borillo, M.A. Bramer, I. Bratko, M. Bruynooghe, B. Buchberger, A. Bundy, S. Busemann, J. Campbell, J. Castaing, R. Chatila, E. Chouraqui, M. Cordier, E.J.F. Costa, D. Davies, J. Doran, W. Dzida, E. Eder, M. Eisenstadt, H. Farreny, A. Feldmann, L. Ferinas del Cerro, R. Fisher, W. Frey, L. Fribourg, M. Gehrke, M. Ghallab, A. Giordana, G. Goerz, P.M.D. Gray, H. Grumbach, G. Guida, J. Hallam, N.W. Hardy, T.A. Harley, J-P. Haton, U. Hein, E. Hollnagel, J. Howe, H. Jappinen, H. Kaindl, Y. Kodratoff, L. Konst, K. Koskenniemi, P. Laface, M. Latombe, J-P. Laurent, M. Lee, A. Lux, R.L. de Mantaras, H. Marburger, A. Martelli, B. Mayoh, L. Mero, K. Morik, J. Mudler, F. Nef. R. Nossum, H-J.Novak, L. Ny, J.J. Ohlbach, H. Pain, G. Papon, J. Pitrat, G.S. Pospelow, A. Ramsay, U. Reyle, C. Rohrer, M. Rosner, A. Schubert, J. Siekmann, B. Silver, F. Sirovich, A. Sloman, I. Steinacker, H. Tropf, H. Trost, J. Virbel, M. Yazdani, R. Young, G.P. Zarri, Z. Zdrahal.

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