

AUSTRALIAN COMPUTER SCIENCE

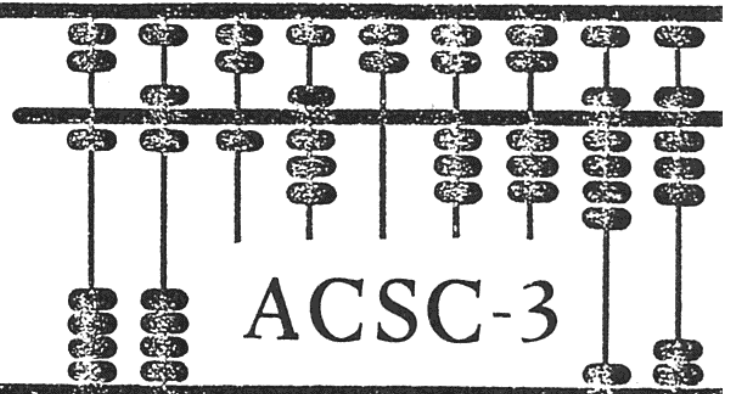
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THIRD AUSTRALIAN COMPUTER SCIENCE CONFERENCE

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Australian National University
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January 31 - February 1, 1980

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Edited by R.P. Brent and R.A. Jarvis

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PREFACE

This volume contains most of the papers presented at the Third Australian Computer Science Conference, held at the Australian National University on 31 January and 1 February 1980. Papers received too late to appear in this volume will be published in subsequent issues of the Australian Computer Science Communications.

The aim of the Conference is to stimulate the exchange of ideas and information between members of the Australian Computer Science community. The major theme of the Conference is

Artificial Intelligence.

This theme was chosen for several reasons. After a history of over-optimistic expectations followed by the inevitable disillusionment, AI has now reached a period of realism and steady, if not spectacular, advances. There are many difficult problems, and the last decade has seen progress towards the solution of some of them. The downward trend in hardware costs suggests that applications of computers will soon be limited mainly by their "intelligence" (or stupidity?), so there is a great incentive for further research.

A subsidiary theme of the Conference is

Funding for Computer Science Research and Teaching.

This theme seems particularly appropriate for a conference held in Canberra at a time when there is growing concern that the present arrangements for funding of Computer Science research and teaching are unlikely to satisfy the demands imposed by the current "information technology" explosion. Thus, we organized a panel discussion on the topic

Funding for Computer Science Teaching
and Research: is Computer Science an
Experimental Science?

Of 28 papers submitted to the Conference, 17 were accepted in time to appear in this volume, and the remaining 11 were rejected, withdrawn or returned to the authors for substantial revisions. All papers were refereed by members of the Organizing Committee and/or external referees. Although papers in areas related to AI were encouraged, sufficiently interesting papers in other areas were also accepted, following the tradition of previous conferences in this series. (The first conference was held at the University of New South Wales in February 1978, and the second at the University of Tasmania in February 1979. Perhaps the meeting held at ANU in February 1977 on the occasion of Edsger Dijkstra's visit should be counted as number zero in the series.)

The organizers wish to welcome Professor D.N.F. Dunbar, Chairman of the Universities Council, who will open the Conference;

Professor I.G. Ross, Deputy Vice-Chancellor of ANU, and former Chairman of the ARGC, who will be our guest at the Conference dinner; and Dr J.M. Tenenbaum, Artificial Intelligence Center, Stanford Research Institute, who will give invited papers on general Artificial Intelligence and Computer Vision.

We thank Chung Yuen (University of Tasmania), John Lions (University of NSW), the other members of the Organizing Committee (Peter Creasy, Steve Edwards, John Hurst, Geoff Huston, Chris Johnson, Bev Johnstone, Brian Molinari, David Poole, and Mike Robson), and the external referees, for their assistance.

R.P. Brent R.A. Jarvis

Co-Chairmen, Organizing Committee

December 1979

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