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25/1977

THE AUSTRALIAN NATIONAL UNIVERSITY

FACULTY OF ECONOMICS

DEPARTMENT OF COMPUTER SCIENCE

ANNUAL REPORT 1976

General Comments and Courses

At its February meeting this year the Board of the School of General Studies resolved (1) to recommend to Council that a separate Department of Computer Science be established, (2) to recommend that a Chair of Computer Science be created as soon as possible, and (3) to recommend that a non-professorial head of department be appointed for a limited term. Council acted upon the first of these in March and thus the Computer Science group, previously administratively part of the Department of Statistics, gained departmental status. The third resolution of the Board has also been acted upon but the question of the Chair is a matter still under consideration subject to the University's financial situation, though the post is approved in principle.

Our Departmental Committee includes all academic staff and two undergraduate students, one postgraduate student (previously a tutor) being present at meetings by invitation.

The Department offers two semester courses at second year level (one of which has a service flavour), four courses at third year level and a full fourth year honours program consisting of formal coursework equivalent to four semester units and project work leading to an honours thesis weighted as two semester units.

Administratively, the most important question before us concerns the possibility of a grouping of the Mathematical Sciences departments of Computer Science, Applied Mathematics, Pure Mathematics and Statistics either as a separate faculty or in one of a number of alternative arrangements. These matters are currently being considered by a working party of the Board.

The Department has been heavily involved with the setting up of a remote computer terminal access facility to communicate with the University's campus machine at the Computer Centre. Also, cooperative efforts between the departments of Statistics and Computer Science to construct and operate a Computer Aided Instruction Laboratory have reached a satisfying though hardly fully developed stage, the required equipment having been installed and a special appointment related to this effort soon to be advertised.

The installation of a Burroughs 1700 Computer System within the Department of Computer Science marks the commencement of a number of new research programs concerned with computer systems and languages. It is anticipated that a number of honours, masters and Ph.D. students, as well as academic staff, will be involved in research work on this machine.

One of our members, Dr. R.B. Stanton, took up a joint position between the Computer Centre and Computer Science early this year, and another, Dr. A.J. Hurst, completed his Ph.D. more recently.

Enrolments and Examination Results

Our W.S.U. figure for 1976 (30th April) was 90.12 which is slightly up on last year's figure of 85.46, in both cases the postgraduate component being approximately 8. We currently have two part-time Master's Qualifying students, three part-time Masters students, one full time Ph.D. candidate and two staff candidatures for Ph.D. The three full time honours students completed their honours degrees with the levels 2A, 2A and 2B and one part-time student will complete his honours degree next year.

Slightly over half of our undergraduate enrolment comes from the Science Faculty with the remainder divided approximately equally between Arts and Economics. Some 16% of these students are part-time and 22% female.

It is customary for Computer Science to allow third year students to nominate freely whether or not they wish to undertake third year units at honours level, and transfers between the two are common; usually, however, the result has been that the more able students remain in the honours stream. This format has been adopted to allow students who have developed an interest in Computer Science half way through their degrees to attempt entry into fourth year honours in Computer Science by lifting their academic performance despite perhaps no previous outstanding results.

Staff

Head of Department (Senior Lecturer)	R.A. Jarvis, BEng WAust., PhD WAust.
Senior Lecturer	B.P. Molinari, BEng WAust., PhD Cantab.
Fellow (joint appointment with Computer Centre)	R.B. Stanton, BEng NSW, PhD NSW
Lecturer	P.N. Creasy, BSc Adel.
Lecturing Fellow	A.J. Hurst, BSc Adel., PhD NSW
Tutors	D.A. Hawking, BSc ANU
	R.R. Ewin, BSc Monash

PUBLICATIONS

- Hurst, A.J., "Estensible Machine Systems", Ph.D. Thesis, University of New South Wales (1976).
- Jarvis, R.A. and Creasy, P.N., "A Case Study Comparison: Batch Submission, Demand Terminal and "Hands-On" Computing in a Computer Science Tertiary Education Environment", Technical Report TR-CS-76-01, May 1976.
- Jarvis, R.A., "Focus Optimisation Criteria for Computer Image Processing", The Microscope, Vol. 24, 1976, pp. 163-180.
- Jarvis, R.A., "Computing the Shape Hull of Points in the Plane", Technical Report TR-CS-76-02, Oct. 1976.
- Jarvis, R.A., "Teaching a Stochastic Automaton to Skillfully Play Hand/Eye Games", Technical Report TR-CS-76-03, Nov. 1976.
- Jarvis, R.A., "A Simple Hand/Eye Experimental Set-Up for Computer Vision Research", Technical Report TR-CS-76-04, Nov. 1976.
- Molinari, B.P., (publication list not available as this staff member is on study leave; list to be appended to report).
- Stanton, R.B., "Programming Languages Matter", Proc. 7th Australian Computer Conference, Perth, 1976, Vol. 3, pp. 85-111.
- Stanton, R.B., "Complexity in Program Structures", in The Complexity of Computational Problem Solving, Andersson, R.S. and Brent, R.P. (Editors), University of Queensland Press, 1976, pp. 32-46.

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DEPARTMENT OF COMPUTER SCIENCE ANALYSIS OF STUDENT PERFORMANCE

FIRST SEMESTER

Subject or Unit	Percentage of Number Enrolled				Percentage of Number Sitting						
	Enrolled as at 30.4.76	Sitting	Wastage (i.e.2-3)	Failure	Sitting	High Distinction	Distinction	Credit	Pass with Merit	Pass	Failure
BC 1	No. 174	125	45	15	125	14	15	36	-	45	15
	%	71.8	25.9	8.6		11.2	12.0	28.8	-	36.0	12.0
CC 1	No. 26	29	-1	4	29	-	-	-	5	20	4
	%	111.5	-3.8	15.4		-	-	-	17.2	69.0	13.8
CC 1H	No. 21	14	7	0	14	2	7	4	-	1	0
	%	66.7	33.3	0.0		14.2	50.0	28.6	-	7.1	0
CC 2	No. 22	24	-2	4	24	-	-	-	3	17	4
	%	109.1	-9.1	18.2		-	-	-	12.5	70.8	16.7
CC 2H	No. 10	4	6	0	4	1	2	0	-	1	0
	%	40.0	60.0	0.0	25.0	25.0	50.0	0.0	-	25.0	0.0

THE AUSTRALIAN NATIONAL UNIVERSITYDEPARTMENT OF COMPUTER SCIENCE ANALYSIS OF STUDENT PERFORMANCESECOND SEMESTER

Subject or Unit	Percentage of Number Enrolled				Percentage of Number Sitting						
	Enrolled as at July 1976	Sitting	Wastage (i.e. 2-3)	Failure	Sitting	High Distinction	Distinction	Credit	Pass with Merit	Pass	Failure
B02 No. %	95	76 80.0	19 20.0	11 11.5	76 80.0	9 11.8	12 15.8	16 21.0	-	28 36.8	11 14.5
C03 No. %	17	15 88.2	2 11.8	2 11.8	15 88.2	-	-	-	3 20.0	10 66.7	2 13.3
C03H No. %	11	6 54.5	5 45.5	-	6 54.5	-	2 33.3	2 33.3	-	2 33.3	-
C04 No. %	19	23 121.0	-	4 21.0	23 121.0	-	-	-	2 8.7	17 73.9	4 17.4
C04H No.	14	5 35.7	9 64.3	1 7.1	5 35.7	1 20.0	3 60.0	-	-	-	1 20.0