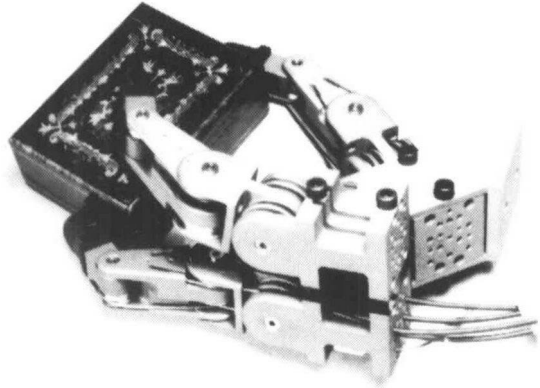


State of the Art Publishing in Robotics



Robotics Research

The Second International Symposium

edited by Hideo Hanafusa and Hirochika Inoue

These sixty-three chapters by the world's leading researchers in robotics cover visual perception; the computational aspect of manipulator control; implementation of action; task level planning and theory of

manipulation; industrial applications of robots and key issues of robotics research. 500 pp. illus. \$45.00

Robotics Research

The First International Symposium

edited by Michael Brady and Richard Paul

The fifty-three contributions in this book present leading current research in one of

the fastest moving fields of artificial intelligence. Major sections focus on connecting perception to action; perception; action; and systems for manufacturing. 1,000 pp. 600 illus. \$65.00

Robot Hands and the Mechanics of Manipulation

Matthew T. Mason and J. Kenneth Salisbury, Jr.

Computer scientists from Carnegie-Mellon and MIT make a significant contribution in this book to understanding the motion of objects in the presence of friction and to the development of fine position and force controlled articulated hands capable of doing useful work. A 15 minute video tape, explor-

ing issues related to robot dexterity and discussing the theory and development behind the Stanford/JPL hand, is available through The MIT Press.

\$30.00

Model-Based Image Matching Using Location

Henry S. Baird

This work deals with the computer vision problem of recognizing rigid shapes in the plane which have been subjected to unknown distortions. Goals are to locate the overall pattern in the image and match each of its features with the corresponding model

feature. Distortions include arbitrary translation, rotation, and scaling, and noise that is bounded within convex polygons.

\$25.00

28 Carleton Street
Cambridge, MA 02142

THE MIT PRESS

Notes for Contributors

1. Manuscripts should preferably be written in English, but papers in French and German will also be accepted. All manuscripts will be referred to acknowledged experts in the subject. Only those receiving favourable recommendations from the referees will be accepted for publication. Manuscripts may be sent to any Board member, any Deputy Editor or the Editor.

2. Typescripts should be double spaced, on one side of good grade paper, allowing a reasonable left-hand margin. An original and two copies should be submitted with the author's full postal address, position and affiliations.

3. A short abstract of about 80 words should precede the main text. *List of symbols:* A typewritten list of any special symbols should be submitted with the manuscript. The list should not define the symbols mathematically, but should serve to identify them typographically. The list will not appear in print, but is essential to help the typesetter and to avoid costly correction in proof.

4. One copy of photographs, prints or transparencies of good quality and unmarked should be submitted. Where lines or lettering are to appear on the photograph, an additional print should be supplied appropriately marked. Each should have, lightly written on the back, the author's name, the figure number and an indication of which is the top of the picture.

5. One copy of each line diagram should be submitted at approximately twice final size and unlettered. Diagrams must be drawn in indian ink on plain white or transparent paper. A second copy should be supplied with lettering included. The author's name and the figure number should be written on this copy. Figures should be numbered consecutively, with arabic numerals, have descriptive captions, and be mentioned in the text. The correct position for each figure should be indicated in the margin of the manuscript.

6. Tables should be typewritten on separate sheets. Avoid, where possible, very wide tables. Number tables

consecutively with roman numerals. Each should have a brief heading. Exceptionally lengthy tables may be summarized for publication with a note that copies of details can be obtained from the authors.

7. Equations: Wherever possible, mathematical equations should be typewritten, with subscripts and superscripts clearly indicated. The printer will set all mathematical symbols in italics unless otherwise indicated; symbols or letters to be set in roman (upright) type should be encircled in pencil, while bold letters should be shown by a wavy underline.

8. References: In the text, references are indicated by superior arabic numbers (without brackets), and should be confined to publish work that is directly pertinent. References should be listed at the end of the paper in numerical order. Authors' initials should precede their names; cited article titles should be quoted in full, enclosed in quotation marks; and abbreviations of journal names should follow the style of *Chemical Abstracts* or *Physical Abstracts*, and be underlined for italics: P.W. Anderson, "More is different" *Science* **177**, 393 (1972) C.V. Negoita, *Fuzzy Systems* (Abacus Press, Tunbridge Wells, UK, 1980)

Citations such as 'personal communication', 'unpublished work', etc., are not acceptable as numbered references but can be included in parenthesis in the text. Do not use summaries as references.

9. Proofs: Page proofs will be sent to authors for correction, for return within 48 hours by airmail. Correction to proofs should be restricted to printers' errors only. Authors are entitled to 25 offprints of their article free of charge. Additional offprints may be purchased if they are ordered on the form sent with the proofs.

10. Manuscripts, whether accepted or rejected, will not be returned to the authors.

11. Submission of an article will be taken to imply that it has not been previously published and that it is not on offer to any other publisher.

ROBOTICA

Volume 3 Part 2

April-June 1985

CONTENTS

Reports and Surveys (Education and Training Systems, Expert Systems and Robotics, International Co-operation in Robotics, Logo Programming, Communications Network, Office Automation, Off-Line Robot Programming, Projects and Products in Automation, Robots in Japan: The Past, Present and Future Trends, Robots Worldwide), B. H. Rudall (U.K.)	65
Control of a biped locomotion system in a double support phase, Tatsuo Narikiyo and Masami Ito (Japan)	73
A robot simulation system based on kinematic analyses, B. Nemeč and J. Lenarčič (Yugoslavia)	79
A small parameter method to improve optimum control via the linearization technique, Guy Jumarie (Canada)	85
Controllability of nonlinear perturbations of linear systems with distributed delays in control, K. Balachandran (India)	89
Employment skills for the robot age, D. A. Bell (U.K.)	93
The integration barrier; problems in the implementation of advanced manufacturing technology, John Bessant (U.K.)	97
Conference Reports	105
Book Reviews	117
Announcements	119

© CAMBRIDGE UNIVERSITY PRESS 1985

Cambridge University Press

The Pitt Building, Trumpington Street, Cambridge CB2 1RP, UK

32 East 57th Street, New York, NY 10022, USA

10 Stamford Road, Oakleigh, Melbourne 3166, Australia

Printed in Northern Ireland by The Universities Press (Belfast) Ltd.