



IEEE COMPUTER SOCIETY PUBLICATIONS



COMPUTER: Up-to-date discussions of the latest developments in hardware and software systems; news, new products, opinion, commentary, abstracts. *Published monthly.*

CONFERENCE DIGESTS AND PROCEEDINGS: Records of many conferences, symposia, and workshops, including the useful Digests for the Society-sponsored COMPCONS.

IEEE COMPUTER GRAPHICS AND APPLICATIONS: Latest information on graphics technology and applications; addresses such topics as display technology, CAD/CAM, business data graphics, human factors in graphic systems design, etc. *Published monthly.*

IEEE MICRO: Articles on applications software, hardware design, new technical developments and microcomputer standards, new products, book reviews, and professional calendar. *Published quarterly.*

TRANSACTIONS ON COMPUTERS: Carefully refereed, archival papers in all fields of computation, information processing, applications, and computer systems research and design. *Published monthly.*

TRANSACTIONS ON SOFTWARE ENGINEERING: Carefully refereed, archival papers on all aspects of the specification, development, management, test, maintenance, and documentation of computer software. *Published bimonthly.*

TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE: Carefully refereed, archival papers on all aspects of pattern recognition, image processing, artificial intelligence and their applications. *Published bimonthly.*

IEEE COMPUTER SOCIETY PUBLICATIONS BOARD

Chairman: K. S. FU
Vice-Chairman: JAMES N. SNYDER
Secretary: D. P. AGRAWAL
C. S. Technical Activities Board Rep.: PAUL LOSLEBEN
IEEE Publications Board Rep.: M. G. SMITH

New Publications Proposal Committee
C. V. RAMAMOORTHY (Chairman), J. N. SNYDER, R. G. STEWART, SUSAN ROSENBAUM

Computer Advisory Committee (CAC)
PAUL HAZAN (Chairman), HARUT BARSAMIAN, HARVEY CRAGON, PORTIA ISAACSON, M. C. MULDER, E. I. ORGANICK, TRUE SEABORN (Editor & Publisher), S. S. YAU (Ed.-in-Chief)

Transactions Advisory Committee (TAC)
T. R. N. RAO (Chairman), L. A. BELADY (Ed.-in-Chief *IEEE TSE*), T. FENG (Ed.-in-Chief *IEEE TC*), DENNIS FIFE, T. PAVLIDIS (Ed.-in-Chief *IEEE TPAMI*), CHARLES KIME, GLEN LANGDON

Rules and Practices Committee
J. F. MEYER (Chairman), D. AGRAWAL, K. S. FU, S. P. KARTASHEV

Magazine Advisory Committee (MAC)
RON HOELZEMAN (Chairman), R. C. JAEGER (Ed.-in-Chief *IEEE Micro*), R. F. RIESENFELD (Assoc. Sr. Ed. *IEEE CG&A*), P. R. RONY (Assoc. Sr. Ed. *IEEE Micro*), SUSAN ROSENBAUM, J. B. SCHALLAN (Managing Ed. *IEEE CG&A* and *IEEE Micro*), R. G. STEWART, M. J. WOZNY (Ed.-in-Chief *IEEE CG&A*)

C. S. Press Advisory Committee (PAC)
P. BRUCE BERRA (Chairman), G. J. LIPOVSKI, CHIP STOCKTON (C. S. Press Director), C. L. WU

EDITORIAL BOARDS

IEEE TRANSACTIONS ON COMPUTERS

TSE-YUN FENG, *Editor-in-Chief*
JEAN-LOUP BAER
JON T. BUTLER
J. ROBERT JUMP
ROBERT M. KELLER
STEPHEN S. LAVENBERG
MING T. LIU
AMAR MUKHOPADHYAY
SUDHAKAR M. REDDY
EARL E. SWARTZLANDER
C. K. WONG
CHUAN-LIN WU

IEEE TRANSACTIONS ON SOFTWARE ENGINEERING

LASZLO A. BELADY, *Editor-in-Chief*
VICTOR BASILI
FRIEDRICH L. BAUER
THOMAS CHEATHAM
EROL GELENBE
JACK GOLDBERG
JOHN GOODENOUGH
CLIFFORD B. JONES
STEPHEN R. KIMBLETON
J. B. MUNSON
JURG NIEVERGELT
C. V. RAMAMOORTHY
GERALD S. SHEDLER
LEON G. STUCKI
STANLEY SU
CHARLES VICK
RAYMOND T. YEH

IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE

T. PAVLIDIS, *Editor-in-Chief*
RUZENA BAJCSY
THOMAS O. BINFORD
Y. T. CHIEN
RICHARD O. DUDA
HERBERT FREEMAN
KING-SUN FU
R. M. HARALICK
FREDERICK JELINEK
A. K. JOSHI
RUSSEL A. KIRSCH
JOSEF KITTLER
MAKOTO NAGAO
H. H. NAGEL
E. A. PARRISH
RICHARD P. PAUL
KEN PRESTON, JR.
RAJ REDDY
AZRIEL ROSENFELD
JACK SKLANSKY
JAMES SLAGLE
STEVEN L. TANIMOTO
M. S. WATANABE
JARED J. WOLF
TZAY Y. YOUNG
STEVEN W. ZUCKER

COMPUTER

S. S. YAU, *Editor-in-Chief*

HELMUT K. BERG
BARRY BOEHM
CARL DAVIS
DENNIS FIFE
JIM HAYNES
SAMIR S. HUSSON
ROBERT H. KUHN
ERIC MANNING
FRANCIS P. MATHUR
DEMITRI A. MICHALOPOULOS
EDWARD MILLER, JR.
YUKIO MIZUNO
EDWARD PARRISH
ARTHUR POHM
C. V. RAMAMOORTHY
BRUCE D. SHRIVER
GIO WIEDERHOLD
STANLEY WINKLER

IEEE COMPUTER GRAPHICS AND APPLICATIONS

MICHAEL J. WOZNY, *Editor-in-Chief*
RICHARD F. RIESENFELD, *Associate Senior Editor*
NORMAN BADLER
FRANKLIN CROW
CHARLES CSURI
JOHN DILL
JOSÉ L. ENCARNAÇÃO
JAMES E. GEORGE
BERTRAM HERZOG
FRANK LILLEHAGEN
CARL MACHOVER
JERRY B. SCHNEIDER
JOHN STAUDHAMMER
HERBERT VOELCKER

IEEE MICRO

RICHARD C. JAEGER, *Editor-in-Chief*
PETER R. RONY, *Associate Senior Editor*
ANDREW ALLISON
TUVIA APELEWICZ
JAMES AYLER
WALTER R. BEAM
J. THOMAS CAIN
PATRICK P. FASANG
DEENE OGDEN
DONALD FEINBERG
JOHN L. HENNESSY
FRED LIGUORI
RICHARD MARKOWITZ
VICTOR NELSON
JEAN-DANIEL NICODU

COMPUTER SOCIETY PRESS

P. BRUCE BERRA, *Editor-in-Chief*
G. JACK LIPOVSKI
EZ NAHOURAII
CHUAN-LIN WU

IEEE TRANSACTIONS ON SOFTWARE ENGINEERING

LASZLO A. BELADY, *Editor-in-Chief*
IBM
Old Orchard Rd.
Armonk, NY 10504

EDITORIAL BOARD

VICTOR BASILI
Dep. Comput. Sci.
Univ. Maryland
College Park, MD 20742

FRIEDRICH L. BAUER
Institut für Informatik der Technischen
Universität München
Postfach 202 420
D-8000
Munich 2, Germany

THOMAS CHEATHAM
Aiken Computation Lab.
Harvard Univ.
Cambridge, MA 02138

EROL GELENBE
Laboratoire de Recherche en
Informatique, Batiment 490
Université de Paris-Sud
F-91405 Orsay Cedex, France

JACK GOLDBERG
Comput. Sci. Group
SRI International
Menlo Park, CA 94025

JOHN GOODENOUGH
SoftTech
460 Totten Pond Rd.
Waltham, MA 02154

CLIFFORD B. JONES
Dep. Comput. Sci.
The University, Manchester,
M13 9PL, England

STEPHEN R. KIMBLETON
ITT Programming
Stratford, CT 06497

JOHN B. MUNSON
System Development Corp.
2500 Colorado Ave.
Santa Monica, CA 90406

JURG NIEVERGELT
Informatik, ETH
CH-8092,
Zurich, Switzerland

C. V. RAMAMOORTHY
Dep. Elec. Eng. Comput. Sci.
Univ. California
Berkeley, CA 94720

GERALD S. SHEDLER
IBM Research
5600 Cottle Rd.
San Jose, CA 95193

LEON G. STUCKI
Boeing Computer Services
P.O. Box 24346
Seattle, WA 98124

STANLEY SU
Dep. Comput. Inform. Sci.
Univ. Florida
Gainesville, FL 32611

CHARLES VICK
Systems Control, Inc.
555 Sparkman Dr., Suite 450
Huntsville, AL 35805

RAYMOND T. YEH
Dep. Comput. Sci.
Univ. Maryland
College Park, MD 20742

The TRANSACTIONS ON SOFTWARE ENGINEERING is a broad-based journal devoted to the publication of high-quality papers related to the engineering aspects of computer software. The scope of this journal will cover all areas which form the middle ground that lies between the initial step of basic research and the end use of computer software. More specifically, it includes the following areas: requirement analysis and specification, programming methodology, software testing and validation, performance and design evaluations, software project management, and programming tools and standards. *Information for Authors:* For detailed requirements regarding submission of papers for the TRANSACTIONS ON SOFTWARE ENGINEERING, and to avoid unnecessary delays in handling, please see p. 82 of the January 1982 issue of this TRANSACTIONS.