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THE JOURNAL

Mathematical Structures in Computer Science (MSCS) is a new journal of theoretical computer science which focuses on the application of ideas from the structural side of mathematics and mathematical logic to computer science. The journal aims to bridge the gap between theoretical contributions and software design, publishing original papers or broad surveys with original perspectives in all areas of computing, provided that ideas or results from algebra, geometry or category theory form a basis for the work.

EDITORIAL POLICY

The purpose of the journal is to increase the circulation of new results in this fast growing area. Notions, methods and results from algebras, geometry and category theory nowadays play a major role in theoretical and even applied computer science. This role is increasing and is stimulating new research directions in these mathematical disciplines as well as influencing various aspects of actual computing. Indeed, this journal is not meant to be only a 'theory journal' but, by choosing as a theme the use of mathematical methods of Computer Science independently of their area of application, it aims to highlight connections among different topics and to encourage applications of theoretical contributions.

This journal welcomes original papers, or broad surveys with original perspectives. Their standard should be comparable to the quality of the best journal in computer science or in mathematics. The papers may be in any area of computing, provided that they employ concepts or results from category theory, algebra or geometry. The journal also welcomes applications to computing based on the use of specific mathematical structures (e.g. topological and order-theoretic structures ...) as well as on proof-theoretic notions and results. The use of categorical or algebraic language just as a unifying tool for a variety of applications is also appreciated, in particular if linked with relevant experimental activity. In order to promote the use of categorical methods in computer science, expository and introductory papers are particularly welcome, with the specific aim of turning the (sometimes excessively) technical jargon of the community of category theorists to a commonly understood language for as many working computer scientists as possible. Equally, discussions of methodological or philosophical nature concerning the foundation of Computer Science are of interest for the journal.

Articles in pure category theory or in other areas of mathematics may be considered provided that there is a clear connection to computational issues or they investigate mathematical structures whose relevance to computer science is well established. However, these contributions should be directed to the broad audience of computer scientists to which this journal is addressed, since the applications of mathematical methods in the broadest sense in language design and software implementation is meant to be the main focus of this journal. We aim, by this, to help fill the gap between theoretical and applied research in Computer Science.



MSCS

MARCH 1991 VOLUME 1 NUMBER 1

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© Cambridge University Press 1991

CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP

40 West 20th Street, New York, NY 10011-4211, USA

10 Stamford Road, Oakleigh, Melbourne 3166, Australia

Printed in Great Britain by the University Press, Cambridge