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Instructions to Authors

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Aims and Scope

The development of algorithms is an integral part of computer science. The increasing complexity and scope of computer applications makes the design of efficient algorithms essential.

Algorithmica is an international journal which publishes original papers on algorithms that are either (i) theoretical papers addressing problems arising in practical areas or (ii) experimental papers that have general appeal because of their practical importance or techniques. Papers are expected to make significant contributions, judged in terms of theoretical analysis, simulations, or algorithm behavior on data from applications. The areas listed below are representative areas; papers in other areas are certainly welcome.

The fields of interest include algorithms in applied areas such as: VLSI, distributed computing, parallel processing, automated design, robotics, graphics, data base design, software tools, as well as algorithms in fundamental areas such as sorting, searching, data structures, computational geometry, and linear programming. It is expected that the areas covered by this journal will change as new technologies, methodologies, and applications develop.

In addition to these regular papers, the journal features two special sections: Application Experience and Problems.

The objective of the Application Experience section is to publish findings obtained from applications of theoretical results to practical situations. Included in the findings are, but not limited to, difficulties encountered in the course of the implementation or testing of algorithms, e.g., handling of degenerate cases which are often not addressed in detail but which actually occur in practice, nontrivial deviations of actual running times of the implemented algorithms from the asymptotic analytical studies, comparisons of actual performance of various algorithms proposed, and discussions of applicability of theoretical studies in practice. All submissions will be subject to the reviewing process and copies of source codes should be made available upon request by the Editor for reviewing purposes.

The Problems section publishes short papers presenting problems on selected topics of computer science. Special emphasis will be given to papers surveying open problems in a specific area of interest. Contributions will begin with a title and an introductory statement identifying a theme of research, followed by a list of related problems which, to the author’s knowledge, are unsolved as of yet. Authors are encouraged to annotate the text with comments, background material, and appropriate references. All submissions will be subject to the reviewing process.

Special issues devoted to a single topic are also planned.