

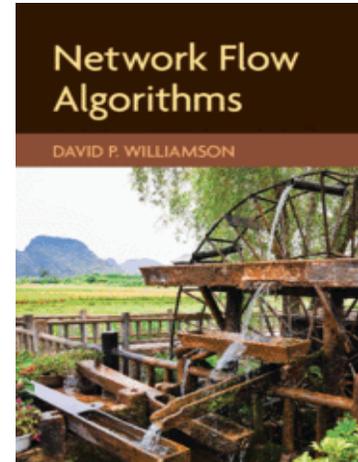
Network Flow Algorithms

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Network flow theory has been used across a number of disciplines, including theoretical computer science, operations research, and discrete math, to model not only problems in the transportation of goods and information, but also a wide range of applications from image segmentation problems in computer vision to deciding when a baseball team has been eliminated from contention. This graduate text and reference presents a succinct, unified view of a wide variety of efficient combinatorial algorithms for network flow problems, including many results not found in other books. It covers maximum flows, minimum-cost flows, generalized flows, multicommodity flows, and global minimum cuts and also presents recent work on computing electrical flows along with recent applications of these flows to classical problems in network flow theory.

1. Preliminaries: shortest path algorithms; 2. Maximum flow algorithms; 3. Global minimum cut algorithms; 4. More maximum flow algorithms; 5. Minimum-cost circulation algorithms; 6. Generalized flow algorithms; 7. Multicommodity flow algorithms; 8. Electrical flow algorithms; 9. Open questions.



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'More than half a century since network flow theory was introduced by the 1962 book of L. R. Ford and D. R. Fulkerson, the area is still active and attractive. This book, based on course materials taught at Stanford and Cornell Universities, offers a concise and succinct description of most of the important topics, as well as covering recent developments. Its use in graduate courses related to algorithms and optimization is highly recommended.'

Toshihide Ibaraki,
Kyoto College of Graduate Studies for Informatics, Japan



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