



Network Algebra

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Monografía

Network Algebra considers the algebraic study of networks and their behaviour. It contains general results on the algebraic theory of networks, recent results on the algebraic theory of models for parallel programs, as well as results on the algebraic theory of classical control structures. The results are presented in a unified framework of the calculus of flownomials, leading to a sound understanding of the algebraic fundamentals of the network theory. The term 'network' is used in a broad sense within this book, as consisting of a collection of interconnecting cells, and two radically different specific interpretations of this notion of networks are studied. One interpretation is additive, when only one cell is active at a given time - this covers the classical models of control specified by finite automata or flowchart schemes. The second interpretation is multiplicative, where each cell is always active, covering models for parallel computation such as Petri nets or dataflow networks. More advanced settings, mixing the two interpretations are included as well. Network Algebra will be of interest to anyone interested in network theory or its applications and provides them with the results needed to put their work on a firm basis. Graduate students will also find the material within this book useful for their studies

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