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Chapter 3. Online Models for Set-covering: The Flaw of Greediness 3.1. Introduction; 3.2. Description of the main results and related work; 3.3. The price of ignorance; 3.4. Competitiveness of TAKE-ALL and TAKE-AT-RANDOM; 3.4.1. TAKE-ALL algorithm; 3.4.2. TAKE-AT-RANDOM algorithm; 3.5. The nasty flaw of greediness; 3.6. The power of look-ahead; 3.7. The maximum budget saving problem; 3.8. Discussion; 3.9. Bibliography; Chapter 4. Comparison of Expressiveness for Timed Automata and Time Petri Nets; 4.1. Introduction; 4.2. Time Petri nets and timed automata

4.2.1. Timed transition systems and equivalence relations 4.2.2. Time Petri nets; 4.2.3. Timed automata; 4.2.4. Expressiveness and equivalence problems; 4.3. Comparison of semantics I, A and PA; 4.3.1. A first comparison between the different semantics of TPNs; 4.3.2. A second comparison for standard bounded TPN; 4.4. Strict ordering results; 4.5. Equivalence with respect to timed language acceptance; 4.5.1. Encoding atomic constraints; 4.5.2. Resetting clocks; 4.5.3. The complete construction; 4.5.4. (A) and A accept the same timed language; 4.5.5. Consequences of the previous results

4.6. Bisimulation of TA by TPNs 4.6.1. Regions of a timed automaton; 4.6.2. From bisimulation to uniform bisimulation; 4.6.3. A characterization of bisimilarity; 4.6.4. Proof of necessity; 4.6.5. First construction; 4.6.6. Second construction; 4.6.7. Complexity results; 4.7. Conclusion; 4.8. Bibliography; Chapter 5. A "Maximum Node Clustering" Problem; 5.1. Introduction; 5.2. Approximation algorithm for the general problem; 5.3. The tree case; 5.3.1. Dynamic programming; 5.3.2. A fully polynomial time approximation scheme; 5.4. Exponential algorithms for special cases; 5.5. Bibliography

Chapter 6. The Patrolling Problem: Theoretical and Experimental Results

Sommario/riassunto

This volume is dedicated to the theme "Combinatorial Optimization - Theoretical Computer Science: Interfaces and Perspectives" and has two main objectives: the first is to show that bringing together operational research and theoretical computer science can yield useful results for a range of applications, while the second is to demonstrate the quality and range of research conducted by the LAMSADE in these areas.
