Real-Time Systems
Scheduling, Analysis, and Verification

Albert M. K. Cheng

More and more of our modern-day systems and devices—from toasters and climate-control systems to airplanes and space shuttles—contain embedded systems to control their functions and ensure that their responses are both timely and correct. With safety a requisite factor, performance validation is a critical aspect of real-time systems. Answering the needs of professionals and students alike, Real-Time Systems: Scheduling, Analysis, and Verification provides a substantial, up-to-date overview of the verification and validation process. It describes several approaches to the problem, and examines the advantages and disadvantages of each approach. Designed to be both an introductory text and a handy reference for the practitioner, the book discusses:

- Symbolic logic, automata, and languages in non-real-time systems
- Real-time scheduling and schedulability analysis
- Verification using timed automata and timed petri nets
- Process algebra
- The design and analysis of propositional-logic rule-based systems
- Timing analysis of predicate-logic rule-based systems
- Optimization of rule-based systems
- Model checking, real-time logic, and statecharts

With ample illustrations and examples of a variety of industrial and toy applications, Real-Time Systems: Scheduling, Analysis, and Verification serves as a key resource for every professional who works with real-time systems.

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