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Nota di contenuto	Introduction (Prandini) -- Models, Architectures, and Analysis for Computationally-aware CPS (Sprinkle) -- Analysis and Design of Uncertain Cyber-Physical Systems (Pinto) -- Handling complexity in large scale cyber-physical systems through distributed computation (Prandini) -- Platoon coordination in large-scale networks: a game theoretic approach (Mårtensson) -- A Linear Programming Approach for Resource-Aware Information-Theoretic Tree Abstractions (Larsson) -- Information Flow in Event-Based Stabilization of Cyber-Physical Systems (Khojasteh) -- Data-Driven Estimation of Forward Reachable Sets (Devonport) -- Set-valued Model Predictive Control (Risso) -- Automated Synthesis of Certifiable Controllers for Cyber-physical Systems: A Computation-Aware Approach (Khaled).
Sommario/riassunto	This contributed volume aims to build the foundation of a framework for computationally aware algorithmic design for cyber-physical systems (CPSs), focusing on approaches that take computation into

account at the design stage to address their impact on performance and safety. It demonstrates how novel techniques may emerge from the combination of formal methods, model predictive control, distributed optimization, data-driven methods, reconfigurable/adaptive methods, and information-theoretic techniques. Chapters are written by both researchers and practitioners and cover such topics as analysis and design of uncertain CPSs, cooperative and non-cooperative paradigms for handling complexity in large scale CPSs, task-relevant environment abstractions for autonomous systems based on information theory, information flow in event-based stabilization of CPSs, set-valued model predictive control,and automated synthesis of certifiable controllers for CPSs. State-of-the-art applications and case studies are provided throughout with a special focus on intelligent transportation systems and autonomous vehicles. Graduate students and researchers with an interest in CPS verification and control will find this volume to be a valuable resource in their work. It will also appeal to researchers from disciplines other than control, such as computer science, operations research, applied mathematics, and robotics. .