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Titolo	Software Engineering for Self-Adaptive Systems [[electronic resource] ] / / edited by Betty H. C. Cheng, Rogério de Lemos, Paola Inverardi, Jeff Magee
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Soggetti	Software engineering Programming languages (Electronic computers) Computer programming Computer simulation Artificial intelligence Software Engineering/Programming and Operating Systems Software Engineering Programming Languages, Compilers, Interpreters Programming Techniques Simulation and Modeling Artificial Intelligence
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1: Research Roadmap -- Software Engineering for Self-Adaptive Systems: A Research Roadmap -- Modeling Dimensions of Self-Adaptive Software Systems -- Engineering Self-Adaptive Systems through Feedback Loops -- 2: Architecture-Based Self-Adaptation -- Improving Architecture-Based Self-Adaptation through Resource Prediction -- Policy-Based Architectural Adaptation Management: Robotics Domain Case Studies -- A Case Study in Goal-Driven Architectural Adaptation -- 3: Context-Aware and Model-Driven Self-

Adaptation -- Model-Centric, Context-Aware Software Adaptation -- Modeling of Context-Aware Self-Adaptive Applications in Ubiquitous and Service-Oriented Environments -- MUSIC: Middleware Support for Self-Adaptation in Ubiquitous and Service-Oriented Environments -- Using Architecture Models to Support the Generation and Operation of Component-Based Adaptive Systems -- Model-Driven Assessment of QoS-Aware Self-Adaptation -- 4: Self-Healing -- Automatic Generation of Runtime Failure Detectors from Property Templates -- Using Filtered Cartesian Flattening and Microbooting to Build Enterprise Applications with Self-adaptive Healing.

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Sommario/riassunto

Although the self-adaptability of systems has been studied in a wide range of disciplines, from biology to robotics, only recently has the software engineering community recognised its key role in enabling the development of future software systems that are able to self-adapt to changes that may occur in the system, its requirements, or the environment in which it is deployed. The 12 carefully reviewed papers included in this state-of-the-art survey originate from the International Seminar on Software Engineering for Self-Adaptive Systems, held in Dagstuhl Castle, Germany, in January 2008. They examine the current state-of-the-art in the field, describing a wide range of approaches coming from different strands of software engineering, and present future challenges facing this ever-resurgent and challenging field of research. Also included in this book is an invited roadmap paper on the research challenges facing self-adaptive systems within the area of software engineering, based on discussions at the Dagstuhl Seminar and put together by several of its participants. The papers have been divided into topical sections on architecture-based self-adaptation, context-aware and model-driven self-adaptation, and self-healing. These are preceded by three research roadmap papers. .

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