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	Autore	Rocha da Rosa Felipe
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	Sommario/riassunto	This book describes the benefits and drawbacks inherent in the use of virtual platforms (VPs) to perform fast and early soft error assessment of multicore systems. The authors show that VPs provide engineers with appropriate means to investigate new and more efficient fault injection and mitigation techniques. Coverage also includes the use of machine learning techniques (e.g., linear regression) to speed-up the soft error evaluation process by pinpointing parameters (e.g., architectural) with the most substantial impact on the software stack dependability. This book provides valuable information and insight through more than 3 million individual scenarios and 2 million simulation-hours. Further, this book explores machine learning techniques usage to navigate large fault injection datasets. Describes the most suitable and efficient virtual platforms to include fault

injection capabilities, aiming to support the soft error analysis of state-of-the-art processor models; Includes analysis and port of several benchmarks from embedded and HPC domains, including the Rodinia and NASA NAS Parallel Benchmark (NPB) suites; Introduces four novel, non-intrusive FI techniques enabling software engineers to perform in-depth and relevant soft error evaluation, addressing the gap between the available FI tools and the industry requirements; Explores machine learning techniques that can be used to enable the identification of individual (or combinations of) microarchitectural and software parameters that present the most substantial relation relationship with each detected soft error or failure.