1.
Record Nr.	UNINA9910778809003321
Titolo	Adaptive control approach for software quality improvement [[electronic resource] /] / editors, W. Eric Wong, Bojan Cukic
Pubbl/distr/stampa	New Jersey, : World Scientific, 2011
ISBN	1-283-43372-9
	9786613433725
	981-4340-92-8
Descrizione fisica	1 online resource (308 p.)
Collana	Series on software engineering and knowledge engineering ; ; v. 20
Altri autori (Persone)	WongW. Eric
	CukicBojan
Disciplina	005.14
Soggetti	Software engineering
	Computer software - Development
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographic references.
Nota di contenuto	Preface; CONTENTS; 1. Prioritizing Coverage-Oriented Testing Process - An Adaptive-Learning-Based Approach and Case Study Fevzi Belli, Mubariz Eminov, Nida G ok ce and W. Eric Wong; 1. Introduction and Related Work; 2. Background; 2.1. Event Sequence Graphs; 2.2. Neural Network-Based Clustering; 3. Competitive Learning; 3.1. Distance-Based Competitive Learning Algorithm; 3.2. Angle-Based Competitive Learning Algorithm; 3.3. Adaptive Competitive Learning; Adaptive Competitive Learning Algorithm; 4. Prioritized ESG-Based Testing; 4.1. Definition of the Attributes of Events 4.2. Definition of Importance Degree and PreferenceIndirect Determination of the Preference Degree; 5. A Case Study; 5.1. Derivation of the Test Cases; 5.2. Determination of Attributes of Events; 5.3. Construction of the Groups of Events; 5.4. Indirect Determination of Preference Degrees; 6. Conclusions and Future Work; References; 2. Statistical Evaluation Methods for V&V of Neuro-Adaptive Systems Y. Liu, J. Schumann and B. Cukic; 1. Introduction; 2. V&V of Neuro-Adaptive Systems; 2.1. Static V&V Approaches; 2.2. Dynamic V&V Approaches; 2.3. V&V of Neural Networks 3. Statistical Evaluation of Neuro-Adaptive Systems3.1. Neural

Sommario/riassunto	This book focuses on the topic of improving software quality using adaptive control approaches. As software systems grow in complexity, some of the central challenges include their ability to self-manage and adapt at run time, responding to changing user needs and environments, faults, and vulnerabilities. Control theory approaches presented in the book provide some of the answers to these challenges. The book weaves together diverse research topics (such as requirements engineering, software development processes, pervasive and autonomic computing, service-oriented architectures, on-line adaptation of software behavior, testing and QoS control) into a coherent whole. Written by world-renowned experts, this book is truly a noteworthy and authoritative reference for students, researchers and practitioners to better understand how the adaptive control approach can be applied to improve the quality of software systems. Book chapters also outline future theoretical and experimental challenges for researchers in this area. -- back cover.