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ISBN	1-60783-235-6
Descrizione fisica	1 online resource (227 p.)
Collana	Mobile communications series
Altri autori (Persone)	BostianCharles W
Disciplina	621.384
Soggetti	Cognitive radio networks Wireless communication systems Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction to cognitive radio -- The cognitive engine: artificial intelligence for wireless communication -- Overview and basics of software defined radios -- Optimization of radio resources -- Genetic algorithms for radio optimization -- Decision making with case-based learning -- Cognitive radio networking and rendezvous -- Example cognitive engine -- Conclusions -- A: Analysis of GNU radio simulation -- B: Additional BER formulas -- C: OProfile and results of profiling GNU radio -- D: XML and DTD representation of the cognitive components -- E: Optimal solutions of knapsack problems -- F: Simulation of an SINR sensor.
Sommario/riassunto	This cutting-edge resource offers practical overview of cognitive radio? a paradigm for wireless communications in which a network or a wireless node changes its transmission or reception parameters. The alteration of parameters is based on the active monitoring of several factors in the external and internal radio environment. This book offers a detailed description of cognitive radio and its individual parts. Practitioners learn how the basic processing elements and their capabilities are implemented as modular components. Moreover, the book explains how each component can be developed and tested independently, before integration with the rest of the engine.

Practitioners discover how cognitive radio uses artificial intelligence to achieve radio optimization. The book also provides an in-depth working example of the developed cognitive engine and an experimental scenario to help engineers understand its performance and behavior.