1. Record Nr. UNINA9910734847903321

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Titolo	Machine Learning for Indoor Localization and Navigation / / edited by Saideep Tiku, Sudeep Pasricha
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-26712-5
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (563 pages)
Altri autori (Persone)	PasrichaSudeep
Disciplina	621.384191
Soggetti	Embedded computer systems Cooperating objects (Computer systems) Microprocessors Computer architecture Embedded Systems Cyber-Physical Systems Processor Architectures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Indoor Localization and its Challenges -- Advanced Pattern-Matching Techniques for Indoor Localization -- Machine Learning Approaches for Resilience to Device Heterogeneity -- Enabling Temporal Variation Resilience for ML based Indoor Localization -- Deploying Indoor Localization Frameworks for Resource Constrained Devices -- Securing Indoor Localization Frameworks.
Sommario/riassunto	While GPS is the de-facto solution for outdoor positioning with a clear sky view, there is no prevailing technology for GPS-deprived areas, including dense city centers, urban canyons, buildings and other covered structures, and subterranean facilities such as underground mines, where GPS signals are severely attenuated or totally blocked. As an alternative to GPS for the outdoors, indoor localization using machine learning is an emerging embedded and Internet of Things (IoT) application domain that is poised to reinvent the way we navigate in various indoor environments. This book discusses advances in the applications of machine learning that enable the localization and

navigation of humans, robots, and vehicles in GPS-deficient environments. The book explores key challenges in the domain, such as mobile device resource limitations, device heterogeneity, environmental uncertainties, wireless signal variations, and security vulnerabilities. Countering these challenges can improve the accuracy, reliability, predictability, and energy-efficiency of indoor localization and navigation. The book identifies severalnovel energy-efficient, real-time, and robust indoor localization techniques that utilize emerging deep machine learning and statistical techniques to address the challenges for indoor localization and navigation. In particular, the book: Provides comprehensive coverage of the application of machine learning to the domain of indoor localization; Presents techniques to adapt and optimize machine learning models for fast, energy-efficient indoor localization; Covers design and deployment of indoor localization frameworks on mobile, IoT, and embedded devices in real conditions.