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	Titolo	Human Activity Recognition and Behaviour Analysis : For Cyber-Physical Systems in Smart Environments / / by Liming Chen, Chris D. Nugent
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
	ISBN	3-030-19408-6
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (268 pages)
	Disciplina	006.3
	Soggetti	Pattern recognition
		Application software
		Computer communication systems
		Big data
		Input-output equipment (Computers)
		Pattern Recognition
		Computer Appl. in Social and Behavioral Sciences
		Information Systems Applications (incl. Internet)
		Computer Communication Networks
		Big Data/Analytics
		Input/Output and Data Communications
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Sensor-based Activity Recognition Review -- Chapter 3. An Ontology-based Approach to Activity Recognition -- Chapter 4. A Hybrid Approach to Activity Modelling -- Chapter 5. Time-window based Data Segmentation -- Chapter 6. Semantic-based Sensor Data Segmentation -- Chapter 7. Composite Activity Recognition -- Chapter 8. Semantic Smart Homes: Towards a Knowledge-rich Smart Environment -- Chapter 9. Semantic Smart Homes: Situation-aware Assisted Living -- Chapter 10. Human Centred Cyber Physical Systems.
	Sommario/riassunto	The book first defines the problems, various concepts and notions related to activity recognition, and introduces the fundamental

rationale and state-of-the-art methodologies and approaches. It then describes the use of artificial intelligence techniques and advanced knowledge technologies for the modelling and lifecycle analysis of human activities and behaviours based on real-time sensing observations from sensor networks and the Internet of Things. It also covers inference and decision-support methods and mechanisms, as well as personalization and adaptation techniques, which are required for emerging smart human-machine pervasive systems, such as self-management and assistive technologies in smart healthcare. Each chapter includes theoretical background, technological underpinnings and practical implementation, and step-by-step information on how to address and solve specific problems in topical areas. This monograph can be used as a textbook for postgraduate and PhD students on courses such as computer systems, pervasive computing, data analytics and digital health. It is also a valuable research reference resource for postdoctoral candidates and academics in relevant research and application domains, such as data analytics, smart cities, smart energy, and smart healthcare, to name but a few. Moreover, it offers smart technology and application developers practical insights into the use of activity recognition and behaviour analysis in state-of-the-art cyber-physical systems. Lastly, it provides healthcare solution developers and providers with information about the opportunities and possible innovative solutions for personalized healthcare and stratified medicine.