1. Record Nr. UNINA9910254994403321

Titolo	Robust Intelligence and Trust in Autonomous Systems / / edited by Ranjeev Mittu, Donald Sofge, Alan Wagner, W.F. Lawless
Pubbl/distr/stampa	New York, NY : , : Springer US : , : Imprint : Springer, , 2016
ISBN	1-4899-7668-X
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (277 p.)
Disciplina	004
Soggetti	Artificial intelligence Robotics Automation Computational intelligence Artificial Intelligence Robotics and Automation Computational Intelligence
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 at the end of each chapters.
Nota di contenuto	Introduction -- Towards modeling the behavior of autonomous systems and humans for trusted operations -- Learning trustworthy behaviors using an inverse trust metric -- The “Trust V”—Building and measuring trust in autonomous systems -- Big Data analytic paradigms—From principle component analysis to deep learning -- Artificial brain systems based on neural network discrete chaotic dynamics. Toward the development of conscious and rational robots -- Modeling and control of trust in human-robot collaborative manufacturing -- Investigating human-robot trust in emergency scenarios: methodological lessons learned -- Designing for robust and effective teamwork in human-agent teams -- Measuring Trust in Human Robot Interactions: Development of the “Trust Perception Scale-HRI” -- Methods for developing trust models for intelligent systems -- The intersection of robust intelligence and trust: Hybrid teams, firms & systems.
Sommario/riassunto	This volume explores the intersection of robust intelligence (RI) and trust in autonomous systems across multiple contexts among

autonomous hybrid systems, where hybrids are arbitrary combinations of humans, machines and robots. To better understand the relationships between artificial intelligence (AI) and RI in a way that promotes trust between autonomous systems and human users, this book explores the underlying theory, mathematics, computational models, and field applications. It uniquely unifies the fields of RI and trust and frames it in a broader context, namely the effective integration of human-autonomous systems. A description of the current state of the art in RI and trust introduces the research work in this area. With this foundation, the chapters further elaborate on key research areas and gaps that are at the heart of effective human-systems integration, including workload management, human computer interfaces, team integration and performance, advanced analytics, behavior modeling, training, and, lastly, test and evaluation. Written by international leading researchers from across the field of autonomous systems research, Robust Intelligence and Trust in Autonomous Systems dedicates itself to thoroughly examining the challenges and trends of systems that exhibit RI, the fundamental implications of RI in developing trusted relationships with present and future autonomous systems, and the effective human systems integration that must result for trust to be sustained. Contributing authors: David W. Aha, Jenny Burke, Joseph Coyne, M.L. Cummings, Munjal Desai, Michael Drinkwater, Jill L. Drury, Michael W. Floyd, Fei Gao, Vladimir Gontar, Ayanna M. Howard, Mo Jamshidi, W.F. Lawless, Kapil Madathil, Ranjeev Mittu, Arezou Moussavi, Gari Palmer, Paul Robinette, Behzad Sadrfaridpour, Hamed Saeidi, Kristin E. Schaefer, Anne Selwyn, Ciara Sibley, Donald A. Sofge, Erin Solovey, Aaron Steinfeld, Barney Tannahill, Gavin Taylor, Alan R. Wagner, Yue Wang, Holly A. Yanco, Dan Zwillinger.