

IoT for defense and national security

Type de contenu : Texte

Type de médiation : sans médiation

Type de support : Volume

Titre(s) : IoT for defense and national security / edited by Robert Douglass, Keith Gremban, Ananthram Swami,... [et al.]

Auteur(s) : Douglass, Robert T. (19..-....)

Autre(s) auteur(s) : Gremban, Keith
Swami, Ananthram
Gerali, Stephan

Publication : Piscataway (N.J.) : IEEE press Hoboken (N.J.) : John Wiley and sons

Date de copyright : C 2023

Description matérielle : 1 vol. (XLVIII-479 p.) : ill., graph., tabl. ; 26 cm

ISBN : 978-1-119-89214-4
1-119-89214-7

EAN : 9781119892144 rel.

Classification décimale Dewey : 355.8

Note sur la responsabilité : Autre contributeur : Stephan Gerali (coéditeur scientifique)

Note sur les bibliographies et les index : Bibliogr. en fin de chapitres. Index

Note sur le contenu : IoT for Defense and National Security Introduction: Vision, Applications, and Opportunities / Stephan Gerali Internet of Battlefield Things: Challenges, Opportunities, and Emerging Directions / Maggie Wigness, Tarek Abdelzaher, Stephen Russell, Ananthram Swami Sensorized Warfighter Weapon Platforms: IoT Making the Fog of War Obsolete / Kyle Broadway IoBT Resource Allocation via Mixed Discrete and Continuous Optimization / Jonathan Bunton, Paulo Tabuada Operationalizing IoT Data for Defense and National Security / Steve Morgan, Jaime Wightman Real Time Monitoring of Industrial Machines using AWS IoT / Stephan Gerali Challenges and Opportunities of IoT for Defense and National Security Logistics / Gisele Bennett, William Crowder, Christina Baxter Digital Twins for Warship Systems: Technologies, Applications and Challenges / Sara Ferreno-Gonzalez, Alicia Munin-Doce, Marcos Míguez González, Lucía Santiago Caamaño, Vicente Diaz-Casas

Introduction: Artificial Intelligence and IoT for Defense and National Security / Robert Douglass
Principles of Robust Learning and Inference for IoTs / Nathaniel D Bastian, Susmit Jha, Paulo Tabuada, Venugopal Veeravalli, Gunjan Verma AI at the Edge: Challenges, Applications, and Directions / Dhiraj Joshi, Nirmal Desai, Shyama Prasad Chowdhury, Wei-Han Lee, Luis Bathen, Shiqiang Wang, Dinesh Verma AI Enabled Processing of Environmental Sounds in Commercial and Defense Environments / David Wood, Jae-wook Ahn, Seraphin Calo, Nancy Greco, Keith Grueneberg, Tadanobu Inoue, Dinesh Verma, Shiqiang Wang Introduction: Security, Resiliency, and Technology for Adversarial Environments / Ananthram Swami Assurance by Design for Cyber-physical Data-driven Systems / Satish Chikkagoudar, Samrat Chatterjee, Ramesh Bharadwaj, Auroop Ganguly, Sastry Kompella, Darlene Thorsen Vulnerabilities in IoT Systems / Zheng Fang, Prasant Mohapatra Intrusion Detection Systems for IoT / Hyunwoo Lee, Anand Mudgerikar, Ninghui Li, Elisa Bertino Bringing Intelligence at the Network Data Plane for Internet of Things Security / Qiaofeng Qin, Konstantinos Poularakis, Leandros Tassioulas Distributed Computing for Internet of Things Under Adversarial Environments / Gowri Sankar Ramachandran, Luis A Garcia, Bhaskar Krishnamachari Ensuring the Security of Defense IoT Through Automatic Code Generation / M Douglas Williams, Robert Douglass Introduction: Communications and Networking / Keith Gremban Leveraging Commercial Communications for Defense IoT / Keith Gremban, Paul J Kolodzy Military IoT: Tactical Edge Clouds for Content Sharing Across Heterogeneous Networks / Tim Strayer, Sam Nelson, Dan Coffin, Bishal Thapa, Joud Khoury, Armando Caro, Michael Atighetchi, Stephane Blais Spectrum Challenges in the Internet of Things: State of the Art and Next Steps / Francesco Restuccia, Tommaso Melodia, Jonathan Ashdown Tactical Edge IoT in Defense and National Security / Paula Fraga-Lamas, Tiago M Fernández-Caramés Use and Abuse of IoT: Challenges and Recommendations / Robert Douglass Index

Résumé ou extrait : IoT for Defense and National Security Practical case-based guide illustrating the challenges and solutions of adopting IoT in both secure and hostile environments IoT for Defense and National Security covers topics on IoT security, architecture, robotics, sensing, policy, operations, and more, including the latest results from the premier IoT research initiative of the U.S. Defense Department, the Internet of Battle Things. The text also discusses challenges in converting defense industrial operations to IoT and summarizes policy recommendations for regulating government use of IoT in free societies. As a modern reference, this book covers multiple technologies in IoT including survivable tactical IoT using content-based routing, mobile ad-hoc networks, and electronically formed beams. Examples of IoT architectures include using KepServerEX for edge connectivity and AWS IoT Core and Amazon S3 for IoT data. To aid in reader comprehension, the text uses case studies illustrating the challenges and solutions for using robotic devices in defense applications, plus case studies on using IoT for a defense industrial base. Written by leading researchers and practitioners of IoT technology for defense and national security, IoT for Defense and National Security also includes information on: Changes in warfare driven by IoT weapons, logistics, and systems IoT resource allocation (monitoring existing resources and reallocating them in response to adversarial actions) Principles of AI-enabled processing for Internet of Battlefield Things, including machine learning and inference Vulnerabilities in tactical IoT communications, networks, servers and architectures, and strategies for securing them Adapting rapidly expanding commercial IoT to power IoT for defense For application engineers from defense-related companies as well as managers, policy makers, and academics, IoT for Defense and National Security is a one-of-a-kind resource, providing expansive coverage of an important yet sensitive topic that is often shielded from the public due to classified or restricted distributions.

Sujet - Nom commun : Sécurité nationale -- Informatique

Internet des objets