1. Record Nr. UNINA9910141504003321

Titolo	Intelligent video surveillance systems [[electronic resource] /] / edited by Jean-Yves Dufour
Pubbl/distr/stampa	London, : ISTE Hoboken, N.J., : Wiley, 2013
ISBN	1-118-57785-X 1-299-18691-2 1-118-57786-8 1-118-57793-0
Descrizione fisica	1 online resource (342 p.)
Collana	Networks and telecommunications series
Altri autori (Persone)	DufourJean-Yves
Disciplina	621.389/28 621.38928
Soggetti	Video surveillance 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	Title Page; Contents; Introduction; Chapter 1. Image Processing: Overview and Perspectives; 1.1. Half a century ago; 1.2. The use of images; 1.3. Strengths and weaknesses of image processing; 1.3.1. What are these theoretical problems that image processing has been unable to overcome?; 1.3.2. What are the problems that image processing has overcome?; 1.4. What is left for the future?; 1.5. Bibliography; Chapter 2. Focus on Railway Transport; 2.1. Introduction; 2.2. Surveillance of railway infrastructures; 2.2.1. Needs analysis; 2.2.2. Which architectures? 2.2.3. Detection and analysis of complex events2.2.4. Surveillance of outside infrastructures; 2.3. Onboard surveillance; 2.3.1. Surveillance of buses; 2.3.2. Applications to railway transport; 2.4. Conclusion; 2.5. Bibliography; Chapter 3. A Posteriori Analysis for Investigative Purposes; 3.1. Introduction; 3.2. Requirements in tools for assisted investigation; 3.2.1. Prevention and security; 3.2.2. Information gathering; 3.2.3. Inquiry; 3.3. Collection and storage of data; 3.3.1. Requirements in terms of standardization; 3.3.2. Attempts at

standardization (AFNOR and ISO)

3.4. Exploitation of the data3.4.1. Content-based indexing; 3.4.2. Assisted investigation tools; 3.5. Conclusion; 3.6. Bibliography; Chapter 4. Video Surveillance Cameras; 4.1. Introduction; 4.2. Constraints; 4.2.1. Financial constraints; 4.2.2. Environmental constraints; 4.3. Nature of the information captured; 4.3.1. Spectral bands; 4.3.2. 3D or "2D + Z" imaging; 4.4. Video formats; 4.5. Technologies; 4.6. Interfaces: from analog to IP; 4.6.1. From analog to digital; 4.6.2. The advent of IP; 4.6.3. Standards; 4.7. Smart cameras; 4.8. Conclusion; 4.9. Bibliography

Chapter 5. Video Compression Formats5.1. Introduction; 5.2. Video formats; 5.2.1. Analog video signals; 5.2.2. Digital video: standard definition; 5.2.3. High definition; 5.2.4. The CIF group of formats; 5.3. Principles of video compression; 5.3.1. Spatial redundancy; 5.3.2. Temporal redundancy; 5.4. Compression standards; 5.4.1. MPEG-2; 5.4.2. MPEG-4 Part 2; 5.4.3. MPEG-4 Part 10/H.264 AVC; 5.4.4. MPEG-4 Part 10/H.264 SVC; 5.4.5. Motion JPEG 2000; 5.4.6. Summary of the formats used in video surveillance; 5.5. Conclusion; 5.6. Bibliography

Chapter 6. Compressed Domain Analysis for Fast Activity Detection6.1. Introduction; 6.2. Processing methods; 6.2.1. Use of transformed coefficients in the frequency domain; 6.2.2. Use of motion estimation; 6.2.3. Hybrid approaches; 6.3. Uses of analysis of the compressed domain; 6.3.1. General architecture; 6.3.2. Functions for which compressed domain analysis is reliable; 6.3.3. Limitations; 6.4. Conclusion; 6.5. Acronyms; 6.6. Bibliography; Chapter 7. Detection of Objects of Interest; 7.1. Introduction; 7.2. Moving object detection; 7.2.1. Object detection using background modeling

7.2.2. Motion-based detection of objects of interest

Sommario/riassunto

Belonging to the wider academic field of computer vision, video analytics has aroused a phenomenal surge of interest since the current millennium. Video analytics is intended to solve the problem of the incapability of exploiting video streams in real time for the purpose of detection or anticipation. It involves analyzing the videos using algorithms that detect and track objects of interest over time and that indicate the presence of events or suspect behavior involving these objects.The aims of this book are to highlight the operational attempts of video analytics, to identify possi