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Descrizione fisica	1 online resource (x, 622 pages)
Disciplina	621.367
Soggetti	Imaging systems Image converters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	About the Guest Editor -- Preface to "Imaging: Sensors and Technologies" -- Depth Errors Analysis and Correction for Time-of-Flight (ToF) Cameras -- Expanding the Detection of Traversable Area with RealSense for the Visually Impaired -- A 3D Optical Surface Profilometer Using a Dual-Frequency Liquid Crystal-Based Dynamic Fringe Pattern Generator -- Graphical Models -- Are We Ready to Build a System for Assisting Blind People in Tactile Exploration of Bas-Reliefs? -- Extracting Objects for Aerial Manipulation on UAVs Using Low Cost Stereo Sensors -- Reliable Fusion of Stereo Matching and Depth Sensor for High Quality Dense Depth Maps -- Simulated and Real Sheet-of-Light 3D Object Scanning Using a-Si:H Thin Film PSD Arrays -- An Indoor Obstacle Detection System Using Depth Information and Region Growth -- Target Detection over the Diurnal Cycle Using a Multispectral Infrared Sensor -- Color Restoration of RGBN Multispectral Filter Array Sensor Images Based on -- Penetration Depth Measurement of Near-Infrared Hyperspectral Imaging Light for Milk Powder -- Forward-Looking Infrared Cameras for Micrometeorological Applications within Vineyards -- Test of the Practicality and Feasibility of EDoF-Empowered Image Sensors for Long-Range Biometrics -- Nonintrusive Finger-Vein Recognition System Using NIR Image Sensor and Accuracy Analyses According to Various Factors -- Full-Field Optical Coherence Tomography Using Galvo Filter-Based Wavelength Swept Laser -- A Selective Change Driven System for High-Speed Motion Analysis -- Geometric Calibration and Validation of Kompstat-

3A AEISS-A Camera -- Design and Evaluation of a Scalable and Reconfigurable Multi-Platform System for Acoustic Imaging -- Underwater Imaging Using a 1 × 16 CMUT Linear Array -- Ultraviolet Imaging with Low Cost Smartphone Sensors: Development and Application of a Raspberry Pi-Based UV Camera -- Design of a Sub-Picosecond Jitter with Adjustable-Range CMOS Delay-Locked Loop for HighSpeed and Low-Power Applications -- A Low Power Digital Accumulation Technique for Digital-Domain CMOS TDI Image Sensor -- A 75-ps Gated CMOS Image Sensor with Low Parasitic Light Sensitivity -- A Fast Multiple Sampling Method for Low-Noise CMOS Image Sensors With Column-Parallel 12-bit SAR ADCs -- Long-Term Continuous Double Station Observation of Faint Meteor Showers -- Evaluation of a Wobbling Method Applied to Correcting Defective Pixels of CZT Detectors in SPECT Imaging -- A Bevel Gear Quality Inspection System Based on Multi-Camera Vision Technology -- Substrate and Passivation Techniques for Flexible Amorphous Silicon-Based X-ray Detectors -- Time-Resolved Synchronous Fluorescence for Biomedical Diagnosis -- A High Performance Banknote Recognition System Based on a One-Dimensional Visible Light -- Uncertainty Comparison of Visual Sensing in Adverse Weather Conditions -- Object Occlusion Detection Using Automatic Camera Calibration for a Wide-Area Video Surveillance System -- A Crowd-Sourcing Indoor Localization Algorithm via Optical Camera on a Smartphone Assisted -- Parallax-Robust Surveillance Video Stitching -- Monocular-Vision-Based Autonomous Hovering for a Miniature Flying Ball -- Driver Distraction Using Visual-Based Sensors and Algorithms.

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#### Sommario/riassunto

This book provides different technologies and procedures related to imaging sensors. Active or passive imaging sensors capture electromagnetic radiation across the whole spectra or acoustic echoes, which, conveniently arranged in images, allow the extraction of useful information. Researchers, engineers and industry professionals can find the most advanced imaging technologies and developments, together with dedicated image processing and computer vision-based approaches. This book provides insights into and solutions for different problems, covering a broad spectrum of possibilities, thanks to a set of applications and solutions, including 3D data recovery; multispectral analysis; biometrics applications; computed tomography; surface defects; indoor/outdoor systems; surveillance. Advanced imaging technologies and specific sensors are also described on the electromagnetic spectrum (ultraviolet, visible, infrared), including airborne calibration systems; selective change driven, multi-spectral systems; specific electronic devices (CMOS, CCDs, CZT, X-Ray, and fluorescence); multi-camera systems; line sensors arrays; video systems. Some technologies based on acoustic imaging are also provided: acoustic planar arrays of MEMS or linear arrays.

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