

Embedded Surveillance System Using Background Subtraction

The three volume set LNCS 7062, LNCS 7063, and LNCS 7064 constitutes the proceedings of the 18th International Conference on Neural Information Processing, ICONIP 2011, held in Shanghai, China, in November 2011. The 262 regular session papers presented were carefully reviewed and selected from numerous submissions. The papers of part I are organized in topical sections on perception, emotion and development, bioinformatics, biologically inspired vision and recognition, bio-medical data analysis, brain signal processing, brain-computer interfaces, brain-like systems, brain-realistic models for learning, memory and embodied cognition, Clifford algebraic neural networks, combining multiple learners, computational advances in bioinformatics, and computational-intelligent human computer interaction. The second volume is structured in topical sections on cybersecurity and data mining workshop, data mining and knowledge discovery, evolutionary design and optimisation, graphical models, human-originated data analysis and implementation, information retrieval, integrating multiple nature-inspired approaches, kernel methods and support vector machines, and learning and memory. The third volume contains all the contributions connected with multi-agent systems, natural language processing and intelligent Web information processing, neural encoding and decoding, neural network models, neuromorphic hardware and implementations, object recognition, visual perception modelling, and advances in computational intelligence methods based pattern recognition.

This book describes for readers technology used for effective sensing of our physical world and intelligent processing

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techniques for sensed information, which are essential to the success of Internet of Things (IoT). The authors provide a multidisciplinary view of sensor technology from materials, process, circuits, and big data domains and showcase smart sensor systems in real applications including smart home, transportation, medical, environmental, agricultural, etc. Unlike earlier books on sensors, this book will provide a “global” view on smart sensors covering abstraction levels from device, circuit, systems, and algorithms. Profiles active research on smart sensors based on CMOS microelectronics; Describes applications of sensors and sensor systems in cyber physical systems, the social information infrastructure in our modern world; Includes coverage of a variety of related information technologies supporting the application of sensors; Discusses the integration of computation, networking, actuation, databases, and various sensors, in order to embed smart sensor systems into actual social systems.

This book constitutes the refereed proceedings of the 6th International Symposium on Intelligence Computation and Applications, ISICA 2012, held in Wuhan, China, in October 2012. The 72 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on artificial life, adaptive behavior, agents, and ant colony optimization; combinatorial and numerical optimization; communications and computer networks; data mining; evolutionary multi-objective and dynamic optimization; intelligent computation, intelligent learning systems; neural networks; real-world applications.

This book constitutes the refereed conference proceedings of the 9th International Conference on Multi-disciplinary Trends in Artificial Intelligence, MIWAI 2015, held in Fuzhou, China, in November 2015. The 30 revised full papers presented

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together with 12 short papers were carefully reviewed and selected from 83 submissions. The papers feature a wide range of topics covering knowledge representation, reasoning, and management; multi-agent systems; data mining and machine learning; computer vision; robotics; AI in bioinformatics; AI in security and networks; and other AI applications.

This book is about Future Information Technology, Application, and Service (FutureTech 2012 volume 2). The topics of FutureTech 2012 cover the current hot topics satisfying the world-wide ever-changing needs. The FutureTech 2012 is intended to foster the dissemination of state-of-the-art research in all future IT areas, including their models, services, and novel applications associated with their utilization. The FutureTech 2012 will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in this area. In addition, the conference will publish high quality papers which are closely related to the various theories, modeling, and practical applications in many types of future technology. The main scope of FutureTech 2012 is as follows. Hybrid Information Technology Cloud and Cluster Computing Ubiquitous Networks and Wireless Communications Multimedia Convergence Intelligent and Pervasive Applications Security and Trust Computing IT Management and Service Bioinformatics and Bio-Inspired Computing Database and Data Mining Knowledge System and Intelligent Agent Human-centric Computing and Social Networks The FutureTech is a major forum for scientists, engineers, and practitioners throughout the world to present the latest research, results, ideas, developments and applications in all areas of future technologies.

Although security is prevalent in PCs, wireless communications and other systems today, it is expected to

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become increasingly important and widespread in many embedded devices. For some time, typical embedded system designers have been dealing with tremendous challenges in performance, power, price and reliability. However now they must additionally deal with definition of security requirements, security design and implementation. Given the limited number of security engineers in the market, large background of cryptography with which these standards are based upon, and difficulty of ensuring the implementation will also be secure from attacks, security design remains a challenge. This book provides the foundations for understanding embedded security design, outlining various aspects of security in devices ranging from typical wireless devices such as PDAs through to contactless smartcards to satellites. Gathering the Proceedings of the 2018 Intelligent Systems Conference (IntelliSys 2018), this book offers a remarkable collection of chapters covering a wide range of topics in intelligent systems and computing, and their real-world applications. The Conference attracted a total of 568 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer review process, after which 194 (including 13 poster papers) were selected to be included in these proceedings. As intelligent systems continue to replace and sometimes outperform human intelligence in decision-making processes, they have made it possible to tackle many problems more effectively. This branching out of computational intelligence in several directions, and the use of intelligent systems in everyday applications, have created the need for such an international conference, which serves as a venue for reporting on cutting-edge innovations and developments. This book collects both theory and application-based chapters on all aspects of artificial intelligence, from classical to intelligent scope.

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Readers are sure to find the book both interesting and valuable, as it presents state-of-the-art intelligent methods and techniques for solving real-world problems, along with a vision of future research directions.

Platform Embedded Security Technology Revealed is an in-depth introduction to Intel's platform embedded solution: the security and management engine. The engine is shipped inside most Intel platforms for servers, personal computers, tablets, and smartphones. The engine realizes advanced security and management functionalities and protects applications' secrets and users' privacy in a secure, light-weight, and inexpensive way. Besides native built-in features, it allows third-party software vendors to develop applications that take advantage of the security infrastructures offered by the engine. Intel's security and management engine is technologically unique and significant, but is largely unknown to many members of the tech communities who could potentially benefit from it. Platform Embedded Security Technology Revealed reveals technical details of the engine. The engine provides a new way for the computer security industry to resolve critical problems resulting from booming mobile technologies, such as increasing threats against confidentiality and privacy. This book describes how this advanced level of protection is made possible by the engine, how it can improve users' security experience, and how third-party vendors can make use of it. It's written for computer security professionals and researchers; embedded system engineers; and software engineers and vendors who are interested in developing new security applications on top of Intel's security and management engine. It's also written for advanced users who are interested in understanding how the security features of Intel's platforms work.

This book constitutes the refereed proceedings of the 31st IFIP TC 11 International Conference on ICT Systems Security

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and Privacy Protection, SEC 2016, held in Ghent, Belgium, in May/June 2016. The 27 revised full papers presented were carefully reviewed and selected from 139 submissions. The papers are organized in topical sections on cryptographic protocols, human aspects of security, cyber infrastructure, social networks, software vulnerabilities, TPM and internet of things, sidechannel analysis, software security, and privacy. This book presents the latest achievements and developments in the field of video surveillance. The chapters selected for this book comprise a cross-section of topics that reflect a variety of perspectives and disciplinary backgrounds. Besides the introduction of new achievements in video surveillance, this book also presents some good overviews of the state-of-the-art technologies as well as some interesting advanced topics related to video surveillance. Summing up the wide range of issues presented in the book, it can be addressed to a quite broad audience, including both academic researchers and practitioners in halls of industries interested in scheduling theory and its applications. I believe this book can provide a clear picture of the current research status in the area of video surveillance and can also encourage the development of new achievements in this field. This book constitutes the thoroughly refereed post-proceedings of the 9th International Workshop on the Design, Specification, and Verification of Interactive Systems, DSV-IS 2002, held in Rostock, Germany in June 2002. The 19 revised full papers

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presented have gone through two rounds of reviewing, selection, and improvement. All aspects of the design, specification, and verification of interactive systems from the human-computer interaction point of view are addressed. Particular emphasis is given to models and their role in supporting the design and development of interactive systems and user interfaces for ubiquitous computing.

Intelligent Embedded Systems
Select Proceedings of ICNETS2
Springer

Video monitoring has become a vital aspect within the global society as it helps prevent crime, promote safety, and track daily activities such as traffic. As technology in the area continues to improve, it is necessary to evaluate how video is being processed to improve the quality of images. Applied Video Processing in Surveillance and Monitoring Systems investigates emergent techniques in video and image processing by evaluating such topics as segmentation, noise elimination, encryption, and classification. Featuring real-time applications, empirical research, and vital frameworks within the field, this publication is a critical reference source for researchers, professionals, engineers, academicians, advanced-level students, and technology developers.

This book is a collection of papers from international experts presented at the International Conference on

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NextGen Electronic Technologies (ICNETS2). ICNETS2 encompassed six symposia covering all aspects of electronics and communications engineering, including relevant nano/micro materials and devices. Highlighting recent research in intelligent embedded systems, the book is a valuable resource for professionals and students working in the core areas of electronics and their applications, especially in signal processing, embedded systems, and networking. The contents of this volume will be of interest to researchers and professionals alike. This volume presents the 5th European Conference of the International Federation for Medical and Biological Engineering (EMBEC), held in Budapest, 14-18 September, 2011. The scientific discussion on the conference and in this conference proceedings include the following issues: - Signal & Image Processing - ICT - Clinical Engineering and Applications - Biomechanics and Fluid Biomechanics - Biomaterials and Tissue Repair - Innovations and Nanotechnology - Modeling and Simulation - Education and Professional

This book presents real-world problems and pioneering research that reflect novel approaches to cybernetics, algorithms and software engineering in the context of intelligent systems. It gathers the peer-reviewed proceedings of the 2nd Computational Methods in Systems and Software 2018 (CoMeSySo 2018), a conference that broke down traditional

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barriers by being held online. The goal of the event was to provide an international forum for discussing the latest high-quality research results.

This book presents innovative ideas, cutting-edge findings, and novel techniques, methods, and applications in a broad range of cybersecurity and cyberthreat intelligence areas. As our society becomes smarter, there is a corresponding need to be able to secure our cyberfuture. The approaches and findings described in this book are of interest to businesses and governments seeking to secure our data and underpin infrastructures, as well as to individual users.

This book constitutes the refereed proceedings of the First International Conference on Futuristic Trends in Network and Communication Technologies, FTNCT 2018, held in Solan, India, in February 2018. The 37 revised full papers presented were carefully reviewed and selected from 239 submissions. The prime aim of the conference is to invite researchers from different domains of network and communication technologies to a single platform to showcase their research ideas. The selected papers are organized in topical sections on communication technologies, Internet of Things (IoT), network technologies, and wireless networks. The Internet of Things (IoT) is a closed-loop system in which a set of sensors is connected to servers via a network. The data from sensors are stored in a database

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and then analysed by IoT analytics. The results are usually employed by either humans, machines, or software to make decisions about the operation of the system. This book provides an interface between the main disciplines of engineering/technology and the organizational, administrative, and planning capabilities of managing the IoT.

Intelligent multimedia surveillance concerns the analysis of multiple sensing inputs including video and audio streams, radio-frequency identification (RFID), and depth data. These data are processed for the automated detection and tracking of people, vehicles, and other objects. The goal is to locate moving targets, to understand their behavior, and to detect suspicious or abnormal activities for crime prevention. Despite its benefits, there is societal apprehension regarding the use of such technology, so an important challenge in this research area is to balance public safety and privacy. This edited book presents recent findings in the field of intelligent multimedia surveillance emerging from disciplines such as multimedia computing, computer vision, and artificial intelligence. It consists of nine chapters addressing intelligent video surveillance, video analysis of crowds, privacy issues in intelligent multimedia surveillance, RFID technology for localization of objects, object tracking using visual saliency information, estimating multiresolution depth using active stereo vision, and performance evaluation for video surveillance systems. The book will be of value to researchers and practitioners working on related problems in security, multimedia, and artificial

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intelligence.

These are the proceedings of IPTComm 2008 – the Second Conference on Principles, Systems and Applications of IP

Telecommunications—held in Heidelberg, Germany, July 1–2, 2008. The scope of the conference included recent advances in the domains of convergent networks, VoIP security and multimedia service environments for next generation networks. The conference attracted 56 submissions, of which the Program Committee selected 16 papers for publication. The review process followed strict standards: each paper received at least three reviews.

We would like to thank all Program Committee members and external reviewers for their contribution to the review process. The conference attracted attendees from academia and industry. Its excellence is reflected in the quality of the contributed papers and invited talks.

Additional industry talks and applied demonstrations assured a synergy between academic and applied research. We would also like to acknowledge and thank our sponsors, many of whom supported the conference generously: NEC, AT&T, Codenomicon, IPTEGO, EADS,

Cellcrypt, MuDynamics, SIP Forum and EURESCOM. Finally, we would like to thank all the researchers and authors from all over the world who submitted their work to the IPTComm 2008 conference.

As a graduate student at Ohio State in the mid-1970s, I inherited a unique computer vision laboratory from the doctoral research of previous students. They had designed and built an early frame-grabber to deliver digitized color video from a (very large) electronic video

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camera on a tripod to a mini-computer (sic) with a (huge!) disk drive—about the size of four washing machines. They had also - signed a binary image array processor and programming language, complete with a user's guide, to facilitate designing software for this one-of-a-kind processor. The overall system enabled programmable real-time image processing at video rate for many operations. I had the whole lab to myself. I designed software that detected an object in the field of view, tracked its movements in real time, and displayed a running description of the events in English. For example: "An object has appeared in the upper right corner...It is moving down and to the left...Now the object is getting closer...The object moved out of sight to the left"—about like that. The algorithms were simple, relying on a sufficient image intensity difference to separate the object from the background (a plain wall). From computer vision papers I had read, I knew that vision in general imaging conditions is much more sophisticated. But it worked, it was great fun, and I was hooked.

Background modeling and foreground detection are important steps in video processing used to detect robustly moving objects in challenging environments. This requires effective methods for dealing with dynamic backgrounds and illumination changes as well as algorithms that must meet real-time and low memory requirements. Incorporating both established and new ideas, *Background Modeling and Foreground Detection for Video Surveillance* provides a complete overview of the concepts, algorithms, and applications related to background modeling and foreground detection. Leaders

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in the field address a wide range of challenges, including camera jitter and background subtraction. The book presents the top methods and algorithms for detecting moving objects in video surveillance. It covers statistical models, clustering models, neural networks, and fuzzy models. It also addresses sensors, hardware, and implementation issues and discusses the resources and datasets required for evaluating and comparing background subtraction algorithms. The datasets and codes used in the text, along with links to software demonstrations, are available on the book's website. A one-stop resource on up-to-date models, algorithms, implementations, and benchmarking techniques, this book helps researchers and industry developers understand how to apply background models and foreground detection methods to video surveillance and related areas, such as optical motion capture, multimedia applications, teleconferencing, video editing, and human–computer interfaces. It can also be used in graduate courses on computer vision, image processing, real-time architecture, machine learning, or data mining. Presents an Cyber-Assurance approach to the Internet of Things (IoT) This book discusses the cyber-assurance needs of the IoT environment, highlighting key information assurance (IA) IoT issues and identifying the associated security implications. Through contributions from cyber-assurance, IA, information security and IoT industry practitioners and experts, the text covers fundamental and advanced concepts necessary to grasp current IA issues, challenges, and solutions for the IoT. The future trends in IoT infrastructures, architectures and

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applications are also examined. Other topics discussed include the IA protection of IoT systems and information being stored, processed or transmitted from unauthorized access or modification of machine-2-machine (M2M) devices, radio-frequency identification (RFID) networks, wireless sensor networks, smart grids, and supervisory control and data acquisition (SCADA) systems. The book also discusses IA measures necessary to detect, protect, and defend IoT information and networks/systems to ensure their availability, integrity, authentication, confidentiality, and non-repudiation. Discusses current research and emerging trends in IA theory, applications, architecture and information security in the IoT based on theoretical aspects and studies of practical applications Aids readers in understanding how to design and build cyber-assurance into the IoT Exposes engineers and designers to new strategies and emerging standards, and promotes active development of cyber-assurance Covers challenging issues as well as potential solutions, encouraging discussion and debate amongst those in the field Cyber-Assurance for the Internet of Things is written for researchers and professionals working in the field of wireless technologies, information security architecture, and security system design. This book will also serve as a reference for professors and students involved in IA and IoT networking. Tyson T. Brooks is an Adjunct Professor in the School of Information Studies at Syracuse University; he also works with the Center for Information and Systems Assurance and Trust (CISAT) at Syracuse University, and is an information security

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technologist and science-practitioner. Dr. Brooks is the founder/Editor-in-Chief of the International Journal of Internet of Things and Cyber-Assurance, an associate editor for the Journal of Enterprise Architecture, the International Journal of Cloud Computing and Services Science, and the International Journal of Information and Network Security.

"This book combines research from esteemed experts on security issues in various wireless communications, recent advances in wireless security, the wireless security model, and future directions in wireless security.

As an innovative reference source for students, educators, faculty members, researchers, engineers in the field of wireless security, it will make an invaluable addition to any library collection"--Provided by publisher.

The book is a collection of high-quality peer-reviewed research papers presented in International Conference on Soft Computing Systems (ICSCS 2015) held at Noorul Islam Centre for Higher Education, Chennai, India. These research papers provide the latest developments in the emerging areas of Soft Computing in Engineering and Technology. The book is organized in two volumes and discusses a wide variety of industrial, engineering and scientific applications of the emerging techniques. It presents invited papers from the inventors/originators of new applications and advanced technologies.

Large-scale video networks are of increasing importance in a wide range of applications. However, the development of automated techniques for aggregating and interpreting information from multiple video streams

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in real-life scenarios is a challenging area of research. Collecting the work of leading researchers from a broad range of disciplines, this timely text/reference offers an in-depth survey of the state of the art in distributed camera networks. The book addresses a broad spectrum of critical issues in this highly interdisciplinary field: current challenges and future directions; video processing and video understanding; simulation, graphics, cognition and video networks; wireless video sensor networks, communications and control; embedded cameras and real-time video analysis; applications of distributed video networks; and educational opportunities and curriculum-development. Topics and features: presents an overview of research in areas of motion analysis, invariants, multiple cameras for detection, object tracking and recognition, and activities in video networks; provides real-world applications of distributed video networks, including force protection, wide area activities, port security, and recognition in night-time environments; describes the challenges in graphics and simulation, covering virtual vision, network security, human activities, cognitive architecture, and displays; examines issues of multimedia networks, registration, control of cameras (in simulations and real networks), localization and bounds on tracking; discusses system aspects of video networks, with chapters on providing testbed environments, data collection on activities, new integrated sensors for airborne sensors, face recognition, and building sentient spaces; investigates educational opportunities and curriculum development from the perspective of computer science and electrical

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engineering. This unique text will be of great interest to researchers and graduate students of computer vision and pattern recognition, computer graphics and simulation, image processing and embedded systems, and communications, networks and controls. The large number of example applications will also appeal to application engineers.

This volume constitutes the refereed proceedings of the 6th Workshop on Engineering Applications, WEA 2019, held in Santa Marta, Colombia, in October 2019. The 62 revised full papers and 2 short papers presented in this volume were carefully reviewed and selected from 178 submissions. The papers are organized in the following topical sections: computer science; computational intelligence; bioengineering; Internet of things; power applications; simulation systems; optimization.

This book lays out all the latest research in the area of multimedia data hiding. The book introduces multimedia signal processing and information hiding techniques. It includes multimedia representation, digital watermarking fundamentals and requirements of watermarking. It moves on to cover the recent advances in multimedia signal processing, before presenting information hiding techniques including steganography, secret sharing and watermarking. The final part of this book includes practical applications of intelligent multimedia signal processing and data hiding systems.

This book features the manuscripts accepted for the Special Issue “Applications in Electronics Pervading Industry, Environment and Society—Sensing Systems and Pervasive Intelligence” of the MDPI journal *Sensors*.

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Most of the papers come from a selection of the best papers of the 2019 edition of the “Applications in Electronics Pervading Industry, Environment and Society” (APPLEPIES) Conference, which was held in November 2019. All these papers have been significantly enhanced with novel experimental results. The papers give an overview of the trends in research and development activities concerning the pervasive application of electronics in industry, the environment, and society. The focus of these papers is on cyber physical systems (CPS), with research proposals for new sensor acquisition and ADC (analog to digital converter) methods, high-speed communication systems, cybersecurity, big data management, and data processing including emerging machine learning techniques. Physical implementation aspects are discussed as well as the trade-off found between functional performance and hardware/system costs. Written by a team of experts at the forefront of the cyber-physical systems (CPS) revolution, this book provides an in-depth look at security and privacy, two of the most critical challenges facing both the CPS research and development community and ICT professionals. It explores, in depth, the key technical, social, and legal issues at stake, and it provides readers with the information they need to advance research and development in this exciting area. Cyber-physical systems (CPS) are engineered systems that are built from, and depend upon the seamless integration of computational algorithms and physical components. Advances in CPS will enable capability, adaptability,

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scalability, resiliency, safety, security, and usability far in excess of what today's simple embedded systems can provide. Just as the Internet revolutionized the way we interact with information, CPS technology has already begun to transform the way people interact with engineered systems. In the years ahead, smart CPS will drive innovation and competition across industry sectors, from agriculture, energy, and transportation, to architecture, healthcare, and manufacturing. A priceless source of practical information and inspiration, *Security and Privacy in Cyber-Physical Systems: Foundations, Principles and Applications* is certain to have a profound impact on ongoing R&D and education at the confluence of security, privacy, and CPS.

The great strides made over the past decade in the complexity and network functionality of embedded systems have significantly enhanced their attractiveness for use in critical applications such as medical devices and military communications. However, this expansion into critical areas has presented embedded engineers with a serious new problem: their designs are now being targeted by the same malicious attackers whose predations have plagued traditional systems for years. Rising concerns about data security in embedded devices are leading engineers to pay more attention to security assurance in their designs than ever before. This is particularly challenging due to embedded devices' inherent resource constraints such as limited power and memory. Therefore, traditional security solutions must be customized to fit their profile, and entirely new security concepts must be explored.

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However, there are few resources available to help engineers understand how to implement security measures within the unique embedded context. This new book from embedded security expert Timothy Stapko is the first to provide engineers with a comprehensive guide to this pivotal topic. From a brief review of basic security concepts, through clear explanations of complex issues such as choosing the best cryptographic algorithms for embedded utilization, the reader is provided with all the information needed to successfully produce safe, secure embedded devices. The ONLY book dedicated to a comprehensive coverage of embedded security! Covers both hardware- and software-based embedded security solutions for preventing and dealing with attacks

Application case studies support practical explanations of all key topics, including network protocols, wireless and cellular communications, languages (Java and C/++), compilers, web-based interfaces, cryptography, and an entire section on SSL

Embedded computing systems play an important and complex role in the functionality of electronic devices. With our daily routines becoming more reliant on electronics for personal and professional use, the understanding of these computing systems is crucial. Embedded Computing Systems: Applications, Optimization, and Advanced Design brings together theoretical and technical concepts of intelligent embedded control systems and their use in hardware and software architectures. By highlighting formal modeling, execution models, and optimal implementations, this reference source is essential for

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experts, researchers, and technical supporters in the industry and academia.

Video is one of the most important forms of multimedia available, as it is utilized for security purposes, to transmit information, promote safety, and provide entertainment. As motion is the most integral element in videos, it is important that motion detection systems and algorithms meet specific requirements to achieve accurate detection of real time events. *Feature Detectors and Motion Detection in Video Processing* explores innovative methods and approaches to analyzing and retrieving video images. Featuring empirical research and significant frameworks regarding feature detectors and descriptor algorithms, the book is a critical reference source for professionals, researchers, advanced-level students, technology developers, and academicians.

"This multiple-volume publications exhibits the most up-to-date collection of research results and recent discoveries in the transfer of knowledge access across the globe"--Provided by publisher.

This book aims to examine innovation in the fields of information technology, software engineering, industrial engineering, management engineering. Topics covered in this publication include; Information System Security, Privacy, Quality Assurance, High-Performance Computing and Information System Management and Integration. The book presents papers from The Second International Conference for Emerging Technologies Information Systems, Computing, and Management (ICM2012) which was held on December 1 to 2, 2012 in Hangzhou, China.

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Belonging to the wider academic field of computer vision, videoanalytics has aroused a phenomenal surge of interest since thecurrent millennium. Video analytics is intended to solve theproblem of the incapability of exploiting video streams in realtime for the purpose of detection or anticipation. It involvesanalyzing the videos using algorithms that detect and track objectsof interest over time and that indicate the presence of events orsuspect behavior involving these objects. The aims of this book are to highlight the operational attempts ofvideo analytics, to identify possible driving forces behindpotential evolutions in years to come, and above all to present thestate of the art and the technological hurdles which have yet to beovercome. The need for video surveillance is introduced through twomajor applications (the security of rail transportation systems anda posteriori investigation). The characteristics of the videosconsidered are presented through the cameras which enable captureand the compression methods which allow us to transport and storethem. Technical topics are then discussed – the analysis ofobjects of interest (detection, tracking and recognition), “high-level” video analysis, which aims to give asemantic interpretation of the observed scene (events, behaviors,types of content). The book concludes with the problem ofperformance evaluation.

This book provides a thorough overview of cutting-edge research on electronics applications relevant to industry, the environment, and society at large. It covers a broad spectrum of application domains, from automotive to space and from health to security, while devoting special

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attention to the use of embedded devices and sensors for imaging, communication and control. The book is based on the 2020 ApplePies Conference, held online in November 2020, which brought together researchers and stakeholders to consider the most significant current trends in the field of applied electronics and to debate visions for the future. Areas addressed by the conference included information communication technology; biotechnology and biomedical imaging; space; secure, clean and efficient energy; the environment; and smart, green and integrated transport. As electronics technology continues to develop apace, constantly meeting previously unthinkable targets, further attention needs to be directed toward the electronics applications and the development of systems that facilitate human activities. This book, written by industrial and academic professionals, represents a valuable contribution in this endeavor.

This book constitutes the refereed proceedings of the Chinese Conference on Trusted Computing and Information Security, CTCIS 2018, held in Wuhan, China, in October 2018. The 24 revised full papers presented were carefully reviewed and selected from 73 submissions. The papers are centered around cryptography, systems security, trusted computing, information security, and network security.

This book constitutes the refereed proceedings of the International Conference on Computer Vision and Graphics, ICCVG 2012, held in Warsaw, Poland, in September 2012. The 89 revised full papers presented were carefully reviewed and selected from various

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submissions. The papers are organized in topical sections on computer graphics, computer vision and visual surveillance.

The five volume set CCIS 224-228 constitutes the refereed proceedings of the International conference on Applied Informatics and Communication, ICAIC 2011, held in Xi'an, China in August 2011. The 446 revised papers presented were carefully reviewed and selected from numerous submissions. The papers cover a broad range of topics in computer science and interdisciplinary applications including control, hardware and software systems, neural computing, wireless networks, information systems, and image processing.

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