Iris Recognition Using Hough Transform Matlab Code

The four-volume set LNCS 7724--7727 constitutes the thoroughly refereed post-conference proceedings of the 11th Asian Conference on Computer Vision, ACCV 2012, held in Daejeon, Korea, in November 2012. The total of 226 contributions presented in these volumes was carefully reviewed and selected from 869 submissions. The papers are organized in topical sections on object detection, learning and matching; object recognition; feature, representation, and recognition; segmentation, grouping, and classification; image representation; image and video retrieval and medical image analysis; face and gesture analysis and recognition; optical flow and tracking; motion, tracking, and computational photography; video analysis and action recognition; shape reconstruction and optimization; shape from X and photometry; applications of computer vision; low-level vision and applications of computer vision.

This volume in the Springer Lecture Notes in Computer Science (LNCS) series contains the papers presented at the S+SSPR 2010 Workshops, which was the seventh occasion that SPR and SSPR workshops have been held jointly. S+SSPR 2010 was organized by TC1 and TC2, Technical Committees of the International Association for Pattern Recognition(IAPR), andheld inCesme, Izmir, whichis a seaside resort on the Aegean coast of Turkey. The conference took place during August 18–20, 2010, only a few days before the 20th International Conference on Pattern Recognition (ICPR) which was held in Istanbul. The aim of the series of workshops is to create an international forum for the presentation of the latest results and exchange of ideas between researchers in the ?elds of statistical and structural

pattern recognition. SPR 2010 and SSPR 2010 received a total of 99 paper submissions from many di?erent countries around the world, giving it a truly international perspective, as has been the case for previous S+SSPR workshops. This volume contains 70 accepted papers, 39 for oral and 31 for poster presentation. In addition to par- lel oral sessions for SPR and SSPR, there were two joint oral sessions of interest to both SPR and SSPR communities. Furthermore, to enhance the workshop experience, there were two joint panel sessions on “Structural Learning” and “Clustering,” in which short author presentations were followed by discussion. Another innovation this year was the ?lming of the proceedings by Videol- tures.

Iris recognition is regarded as the most reliable and accurate biometric identification system available. Iris recognition system captures an image of an individual s eye, the iris in the image is then segmented and normalized for feature extraction process. The performance of iris recognition systems highly depends on segmentation. Segmentation is used to locate the correct iris region in an eye and it should be done accurately and correctly to remove the eyelids, eyelashes, reflection and pupil noises present in iris region.In our book we are comparing two segmentation methods namely, Daughman s algorithm and Hough Transform. Iris images are selected from the CASIA Database, then the iris and pupil boundary are detected from rest of the eye image, removing the noises.The segmented iris region was normalized to eliminate dimensional inconsistencies between iris regions by using Daugman s Rubber Sheet Model.A comparative analysis is made of the two methods to find out the better method.

This volume presents the proceedings of the 7th International Conference on the Development of Biomedical Engineering in Vietnam which was held from June 27-29, 2018 in Ho Chi

Minh City. The volume reflects the progress of Biomedical Engineering and discusses problems and solutions. It aims to identify new challenges, and shaping future directions for research in biomedical engineering fields including medical instrumentation, bioinformatics, biomechanics, medical imaging, drug delivery therapy, regenerative medicine and entrepreneurship in medical devices.

In the last few years, biometric techniques have proven their ability to provide secure access to shared resources in various domains. Furthermore, software agents and multi-agent systems (MAS) have shown their efficiency in resolving critical network problems. Iris Biometric Model for Secured Network Access proposes a new model, the IrisCryptoAgentSystem (ICAS), which is based on a biometric method for authentication using the iris of the eyes and an asymmetric cryptography method using "Rivest-Shamir-Adleman" (RSA) in an agent-based architecture. It focuses on the development of new methods in biometric authentication in order to provide greater efficiency in the ICAS model. It also covers the pretopological aspects in the development of the indexed hierarchy to classify DRVA iris templates. The book introduces biometric systems, cryptography, and multi-agent systems (MAS) and explains how they can be used to solve security problems in complex systems. Examining the growing interest to exploit MAS across a range of fields through the integration of various features of agents, it also explains how the intersection of biometric systems, cryptography, and MAS can apply to iris recognition for secure network access. The book presents the various conventional methods for the localization of external and internal edges of the iris of the eye based on five simulations and details the effectiveness of each. It also improves upon existing methods for the localization of the external and internal edges of the iris and for removing the intrusive effects

of the eyelids.

In this paper, a dual iris authentication using Dezert-Smarandache theory is presented. The proposed method consists of three main steps: In the first one, the iris images are segmented in order to extract only half iris disc that contains relevant information and is less affected by noise. For that, a Hough transform is used. The segmented images are normalized by Daugman rubber sheet model. In the second step, the normalized images are analyzed by a bench of two 1D Log-Gabor filters to extract the texture characteristics. The encoding is realized with a phase of quantization developed by J. Daugman to generate the binary iris template. For the authentication and the similarity measurement between both binary irises templates, the hamming distances are used with a previously calculated threshold. The score fusion is applied using DSmC combination rule. The proposed method has been tested on a subset of iris database CASIA-IrisV3-Interval. The obtained results give a satisfactory performance with accuracy of 99.96%, FAR of 0%, FRR of 3.89%, EER of 2% and processing time for one iris image of 12.36 s.

This authoritative collection introduces the reader to the state of the art in iris recognition technology. Topics and features: with a Foreword by the “father of iris recognition,” Professor John Daugman of Cambridge University; presents work from an international selection of preeminent researchers, reflecting the uses of iris recognition in many different social contexts; provides viewpoints from researchers in government, industry and academia, highlighting how iris recognition is both a thriving industry and an active research area; surveys previous developments in the field, and covers topics ranging from the low-level (e.g., physics of iris image acquisition) to the high level (e.g., alternative non-Daugman approaches to iris matching); introduces many active and

open areas of research in iris recognition, including cross-wavelength matching and iris template aging. This book is an essential resource for anyone wishing to improve their understanding of iris recognition technology.

The two volumes LNCS 8814 and 8815 constitute the thoroughly refereed proceedings of the 11th International Conference on Image Analysis and Recognition, ICIAR 2014, held in Vilamoura, Portugal, in October 2014. The 107 revised full papers presented were carefully reviewed and selected from 177 submissions. The papers are organized in the following topical sections: image representation and models; sparse representation; image restoration and enhancement; feature detection and image segmentation; classification and learning methods; document image analysis; image and video retrieval; remote sensing; applications; action, gestures and audio-visual recognition; biometrics; medical image processing and analysis; medical image segmentation; computer-aided diagnosis; retinal image analysis; 3D imaging; motion analysis and tracking; and robot vision.

This book is a collection of the latest applications of methods from soft computing and machine learning in image processing. It explores different areas ranging from image segmentation to the object recognition using complex approaches, and includes the theory of the methodologies used to provide an overview of the application of these tools in image processing. The material has been compiled from a scientific perspective, and the book is primarily intended for undergraduate and postgraduate science, engineering, and computational mathematics students. It can also be used for

courses on artificial intelligence, advanced image processing, and computational intelligence, and is a valuable resource for researchers in the evolutionary computation, artificial intelligence and image processing communities.

The past decade has seen a rapid growth in the demand for biometric-based - thentication solutions for a number of applications. With signi?cant advances in biometrictechnologyandanincreaseinthe numberofapplicationsincorporating biometrics, it is essential that we bring together researchers from academia and industry as well as practitioners to share ideas, problems and solutions for the development and successful deployment of state-of-the-art biometric systems. The InternationalConference onBiometric Authentication (ICBA 2004)was the?rst major gathering in the Asia-Paci?c region devoted to facilitating this interaction. We are pleased that this conference attracted a large number of high-quality research papers that will bene?t the international biometrics - search community. After a careful review of 157 submissions, 101 papers were acceptedeitherasoral(35)orposter(66)presentations. Inadditiontothesete- nical presentations, this conference also presented the results and summaries of threebiometric competitions: FingerprintVeri?cationCompetition (FVC 2004), Face Authentication Competition (FAC 2004), and

Signature Veri?cation C- petition (SVC 2004). This conference provided a forum for the practitioners to discuss their practical experiences in applying the state-of-the-art biometric technologies which will further stimulate research in biometrics. We aregrateful to Jim L. Wayman, Edwin Rood, Raymond Wong, Jonathon Philips, andFrancisHofor acceptingourinvitationtogivekeynotetalksatICBA 2004. In addition, we would like to express our gratitude to all the contributors, reviewers, program committee and organizing committee members who made this a very successful conference. We also wish to acknowledge the Croucher Foundation, the International Association of Pattern Recognition, IEEE Hong Kong Section, the Hong Kong Polytechnic University, the National Natural S- ence Foundation in China, and Springer-Verlag for sponsoring this conference.

The book focuses on both theory and applications in the broad areas of communication technology, computer science and information security. This two volume book contains the Proceedings of International Conference on Advanced Computing and Intelligent Engineering. These volumes bring together academic scientists, professors, research scholars and students to share and disseminate information on knowledge and scientific research works related to computing, networking, and informatics to discuss the practical challenges

encountered and the solutions adopted. The book also promotes translation of basic research into applied investigation and convert applied investigation into practice.

This volume contains the proceedings of the third international conference on Pattern Recognition and Machine Intelligence (PReMI 2009) which was held at the Indian Institute of Technology, New Delhi, India, during December 16–20, 2009. This was the third conference in the series. The first two conferences were held in December at the Indian Statistical Institute, Kolkata in 2005 and 2007. PReMI has become a premier conference in India presenting state-of-art research findings in the areas of machine intelligence and pattern recognition. The conference is also successful in encouraging academic and industrial interaction, and in prom- ing collaborative research and developmental activities in pattern recognition, - chine intelligence and other allied fields, involving scientists, engineers, professionals, researchers and students from India and abroad. The conference is scheduled to be held every alternate year making it an ideal platform for sharing views and expe- ences in these fields in a regular manner. The focus of PReMI 2009 was soft-computing, machine learning, pattern recognition and their applications to diverse fields. As part of PReMI 2009 we had two special workshops. One workshop focused on text mining. The other

workshop show-cased industrial and developmental projects in the relevant areas. Premi 2009 attracted 221 submissions from different countries across the world.

The security is an important aspect in our daily life whichever the system is considered, security plays vital role. The biometric person identification technique based on the pattern of human iris is suitable to be applied to access control and provides strong e-security. Iris recognition is one of important biometric recognition approaches in human identification is very active topic in research and practical application. Iris Recognition System consists of Acquisition, Localization, Feature Extraction and Feature Matching phases. Circular Hough Transform is one the best suitable algorithm in segmentation phase, but as a result of having two for-loops in its structure; CHT algorithm consumes high time processing and uses high storage capacity. These drawbacks make it hardly appropriate for real time applications of iris recognition system. To improve time and storage complexity, firstly, a pre-processing of CUHK iris image dataset is done to eliminate unnecessarily regions and secondly, a radius table is created based on pupil size variation of CUHK iris image dataset. The results show at least 40% efficiency in time complexity and minimum 20% efficiency in storage complexity.

Spread in 133 articles divided in 20 sections the present treatises broadly discusses: Part 1: Image Processing Part 2: Radar and Satellite Image Processing Part 3: Image Filtering Part 4: Content Based Image Retrieval Part 5: Color Image Processing and Video Processing Part 6: Medical Image Processing Part 7: Biometric Part 8: Network Part 9: Mobile Computing Part 10: Pattern Recognition Part 11: Pattern Classification Part 12: Genetic Algorithm Part 13: Data Warehousing and Mining Part 14: Embedded System Part 15: Wavelet Part 16: Signal Processing Part 17: Neural Network Part 18: Nanotechnology and Quantum Computing Part 19: Image Analysis Part 20: Human Computer Interaction

The two volume set LNCS 3686 and LNCS 3687 constitutes the refereed proceedings of the Third International Conference on Advances in Pattern Recognition, ICAPR 2005, held in Bath, UK in August 2005. The papers submitted to ICAPR 2005 were thoroughly reviewed by up to three referees per paper and less than 40% of the submitted papers were accepted. The first volume includes 73 contributions related to Pattern Recognition and Data Mining (which included papers from the tracks of pattern recognition methods, knowledge and learning, and data mining); topics addressed are pattern recognition, data mining, signal processing and OCR/ document analysis. The second volume

contains 87 contributions related to Pattern Recognition and Image Analysis (which included papers from the applications track) and deals with security and surveillance, biometrics, image processing and medical imaging. It also contains papers from the Workshop on Pattern Recognition for Crime Prevention.

This conference proceedings summarizes invited publications from the two IDES (Institute of Doctors Engineers and Scientists) International conferences, both held in Bangalore/ India.

In this book, we propose three techniques to increase the iris recognition robustness and accuracy. First, we propose a new segmentation algorithm to handle iris images were captured on less constrained conditions. This algorithm reduces the error percentage while there are types of noise, such as iris obstructions and specular reflection. The proposed algorithm uses the K-means algorithm, Circular Hough Transform and some new proposed algorithms to detect and isolate noise regions. Second, a study of the effect of the pupil dilation on iris recognition system is performed, in order to show that the pupil dilation degrades iris template and affects the performance of recognition systems. Therefore, a limit of pupil dilation degree is determined. If the degree of pupil dilation exceeds this limit, the iris code will be affected or some of its information will be discarded. This limit can be used to avoid detrimental pupil dilation. Finally, we analyze the iris code bits to determine the consistent and inconsistent bits, and we compare between the inner and

outer regions to find which region contains more inconsistent bits.

The book presents three most significant areas in Biometrics and Pattern Recognition. A step-by-step approach for design and implementation of Dual Tree Complex Wavelet Transform (DTCWT) plus Rotated Complex Wavelet Filters (RCWF) is discussed in detail. In addition to the above, the book provides detailed analysis of iris images and two methods of iris segmentation. It also discusses simplified study of some subspace-based methods and distance measures for iris recognition backed by empirical studies and statistical success verifications.

This book includes the papers presented in 2nd International Conference on Image Processing and Capsule Networks [ICIPCN 2021]. In this digital era, image processing plays a significant role in wide range of real-time applications like sensing, automation, health care, industries etc. Today, with many technological advances, many state-of-the-art techniques are integrated with image processing domain to enhance its adaptiveness, reliability, accuracy and efficiency. With the advent of intelligent technologies like machine learning especially deep learning, the imaging system can make decisions more and more accurately. Moreover, the application of deep learning will also help to identify the hidden information in volumetric images. Nevertheless, capsule network, a type of deep neural network, is revolutionizing the image processing domain; it is still in a research and development phase. In this perspective, this book includes the state-of-the-art

research works that integrate intelligent techniques with image processing models, and also, it reports the recent advancements in image processing techniques. Also, this book includes the novel tools and techniques for deploying real-time image processing applications. The chapters will briefly discuss about the intelligent image processing technologies, which leverage an authoritative and detailed representation by delivering an enhanced image and video recognition and adaptive processing mechanisms, which may clearly define the image and the family of image processing techniques and applications that are closely related to the humanistic way of thinking.

Biometric technologies are the foundation of personal identification systems. A biometric system recognizes an individual based on some characteristics or processes. Characteristics used for recognition include features measured from face, fingerprints, hand geometry, handwriting, iris, retina, vein, signature and voice. Among the various techniques, iris recognition is regarded as the most reliable and accurate biometric recognition system. However, the technology of iris coding is still at an early stage. Iris recognition system consists of a segmentation system that localizes the iris region in an eye image and isolates eyelids, eyelashes. Segmentation is achieved using circular Hough transform for localizing the iris and pupil regions, linear Hough transform for localizing the eyelids and thresholding for detecting eyelashes. The segmented iris region is normalized to a rectangular block with fixed polar dimensions using Daugman0?9s rubber sheet

model. The work presented in this report involves extraction of iris templates using the algorithms developed by Daugman. Features are then extracted from these templates using wavelet transform to perform the recognition task. Method of extracting features using cumulative sums is also investigated. Iris codes are generated for each cell by computing cumulative sums which describe variations in the gray values of iris. For determining the performance of the proposed iris recognition systems, CASIA database and UBRIS.v1 database of digitized grayscale eye images are used. K-nearest neighbor and Hamming distance classifiers are used to determine the similarity between the iris templates. The performance of the proposed methods is evaluated and compared.

An Approach Towards Iris Localization for Non Cooperative Images: A Study

This book constitutes the refereed proceedings of the First International Conference on Intelligent Cloud Computing, ICC 2019, held in Riyadh, Saudi Arabia, in December 2019. The two-volume set presents 53 full papers, which were carefully reviewed and selected from 174 submissions. The papers are organized in topical sections on Cyber Security; Data Science; Information Technology and Applications; Network and IoT.

It is our pleasure to welcome you to the proceedings of the 13th International C- puter Society of Iran Computer Conference (CSICC-2008). The conference has been held annually since 1995, except for 1998, when it transitioned from a year-end to first-quarter schedule. It has been moving in the direction of greater selectivity

(see Fig.1) and broader international participation. Holding it in Kish Island this year represents an effort to further facilitate and encourage international contributions. We feel privileged to participate in further advancing this strong technical tradition. 60 50 40 30 20 10 0 Dec 23-26 Dec 23-25 Dec 23-25 Jan 26-28 Mar 8-10 Feb 21-23 Feb 28-30 Feb 23-26 Feb 16-19 Feb 15-18 Jan 24-26 Feb 20-22 Mar 9-11 1995 1996 1997 Iran 1999 2000 2001 U of 2002 Iran 2003 2004 2005 Iran 2006 IPM, 2007 2008 Sharif U Amirkabir U of Sharif U Shahid Isfahan, Telecom Ferdowsi Sharif U Telecom Tehran Shahid Sharif U of Tech, U of Tech, Sci/Tech, of Tech, Beheshti Isfahan Res. U, of Tech, Res. Beheshti of Tech, Tehran Tehran Tehran Tehran U, Tehran Center Mashhad Tehran Center U, Tehran Kish Island Dates, Year, Venue

The book proposes new technologies and discusses future solutions for design infrastructure for ICT. The book contains high quality submissions presented at Second International Conference on Information and Communication Technology for Sustainable Development (ICT4SD - 2016) held at Goa, India during 1 - 2 July, 2016. The conference stimulates the cutting-edge research discussions among many academic pioneering researchers, scientists, industrial engineers, and students from all around the world. The topics covered in this book also focus on innovative issues at international level by bringing together the experts from different countries.

This book gathers selected papers presented at the conference “Advances in 3D Image and Graphics

Representation, Analysis, Computing and Information Technology," one of the first initiatives devoted to the problems of 3D imaging in all contemporary scientific and application areas. The aim of the conference was to establish a platform for experts to combine their efforts and share their ideas in the related areas in order to promote and accelerate future development. This second volume discusses algorithms and applications, focusing mainly on the following topics: 3D printing technologies; naked, dynamic and auxiliary 3D displays; VR/AR/MR devices; VR camera technologies; microprocessors for 3D data processing; advanced 3D computing systems; 3D data-storage technologies; 3D data networks and technologies; 3D data intelligent processing; 3D data cryptography and security; 3D visual quality estimation and measurement; and 3D decision support and information systems.

This book contains selected papers from the 7th International Conference on Information Science and Applications (ICISA 2016) and provides a snapshot of the latest issues encountered in technical convergence and convergences of security technology. It explores how information science is core to most current research, industrial and commercial activities and consists of contributions covering topics including Ubiquitous Computing, Networks and Information Systems, Multimedia and Visualization, Middleware and Operating Systems, Security and Privacy, Data Mining and Artificial Intelligence, Software Engineering, and Web Technology. The contributions describe the most recent developments in information technology and

ideas, applications and problems related to technology convergence, illustrated through case studies, and reviews converging existing security techniques. Through this volume, readers will gain an understanding of the current state-of-the-art information strategies and technologies of convergence security. The intended readers are researchers in academia, industry and other research institutes focusing on information science and technology.

This book constitutes the thoroughly refereed post-conference proceedings of the 4th International Conference on Computing and Network Communications (CoCoNet'20), October 14-17, 2020, Chennai, India. The papers presented were carefully reviewed and selected from several initial submissions. The papers are organized in topical sections on Signal, Image and Speech Processing, Wireless and Mobile Communication, Internet of Things, Cloud and Edge Computing, Distributed Systems, Machine Intelligence, Data Analytics, Cybersecurity, Artificial Intelligence and Cognitive Computing and Circuits and Systems. The book is directed to the researchers and scientists engaged in various fields of computing and network communication domains.

Iris localization is the most important part of iris recognition which involves the detection of iris boundaries in an image. A very important need of this effective security system is to overcome the rigid constraints necessitated by the practical implementation of such a system. There are a few existing techniques for iris segmentation in which iris detection using Circular

Hough Transform is the most reliable and popular and it has been implemented in this project. But there is a shortcoming in this technique. It does not perform well and does not gives high accuracy with images containing noise or occlusions caused by eyelids. Such kind of images constitute non cooperative data for iris recognition. To provide acceptable measures of accuracy, it is critical for an iris recognition system to overcome various noise effects introduced in images captured under different environment such as occlusions due to eyelids. This report discusses an approach towards less constraint iris recognition using occluded images. The Circular Hough Transform is implemented for few images and a novel approach towards iris localization and eyelids detection is studied.

This book constitutes the thoroughly refereed proceedings of the 12th International Conference on Image Analysis and Recognition, ICIAR 2015, held in Niagara Falls, ON, Canada, in July 2015. The 55 revised full papers and 5 short papers presented were carefully reviewed and selected from 80 submissions. The papers are organized in the following topical sections: image quality assessment; image enhancement; image segmentation, registration and analysis; image coding, compression and encryption; dimensionality reduction and classification; biometrics; face description, detection and recognition; human activity recognition; robotics and 3D vision; medical image analysis; and applications.

The definitive work on iris recognition technology, this comprehensive handbook presents a broad overview of the state of the art in this exciting and rapidly evolving

field. Revised and updated from the highly-successful original, this second edition has also been considerably expanded in scope and content, featuring four completely new chapters. Features: provides authoritative insights from an international selection of preeminent researchers from government, industry, and academia; reviews issues covering the full spectrum of the iris recognition process, from acquisition to encoding; presents surveys of topical areas, and discusses the frontiers of iris research, including cross-wavelength matching, iris template aging, and anti-spoofing; describes open source software for the iris recognition pipeline and datasets of iris images; includes new content on liveness detection, correcting off-angle iris images, subjects with eye conditions, and implementing software systems for iris recognition.

Because of the accelerating progress in biometrics research and the latest nation-state threats to security, this book's publication is not only timely but also much needed. This volume contains seventeen peer-reviewed chapters reporting the state of the art in biometrics research: security issues, signature verification, fingerprint identification, wrist vascular biometrics, ear detection, face detection and identification (including a new survey of face recognition), person re-identification, electrocardiogram (ECT) recognition, and several multi-modal systems. This book will be a valuable resource for graduate students, engineers, and researchers interested in understanding and investigating this important field of study.

The contributed volume aims to explicate and address

the difficulties and challenges for the seamless integration of two core disciplines of computer science, i.e., computational intelligence and data mining. Data Mining aims at the automatic discovery of underlying non-trivial knowledge from datasets by applying intelligent analysis techniques. The interest in this research area has experienced a considerable growth in the last years due to two key factors: (a) knowledge hidden in organizations' databases can be exploited to improve strategic and managerial decision-making; (b) the large volume of data managed by organizations makes it impossible to carry out a manual analysis. The book addresses different methods and techniques of integration for enhancing the overall goal of data mining. The book helps to disseminate the knowledge about some innovative, active research directions in the field of data mining, machine and computational intelligence, along with some current issues and applications of related topics.

Evolutionary computation has emerged as a major topic in the scientific community as many of its techniques have successfully been applied to solve problems in a wide variety of fields. Modeling Applications and Theoretical Innovations in Interdisciplinary Evolutionary Computation provides comprehensive research on emerging theories and its aspects on intelligent computation. Particularly focusing on breaking trends in evolutionary computing, algorithms, and programming, this publication serves to support professionals, government employees, policy and decision makers, as well as students in this scientific field.

2014 International Conference on Artificial Intelligence and Software Engineering(AISE2014) aims to provide a forum for accessing to the most up-to-date and authoritative knowledge from both Artificial Intelligence and Software Engineering. AISE2014 features unique mixed topics of AI Algorithms, Data Mining, Knowledge-based Systems, Software Process and so on. The goal of this conference is to bring researchers, engineers, and students to the areas of Artificial Intelligence and Software Engineering to share experiences and original research contributions on those topics. Researchers and practitioners are invited to submit their contributions to AISE2014.

The International conference series on Computer Science, Engineering & Applications (ICCSEA) aims to bring together researchers and practitioners from academia and industry to focus on understanding computer science, engineering and applications and to establish new collaborations in these areas. The Second International Conference on Computer Science, Engineering & Applications (ICCSEA-2012), held in Delhi, India, during May 25-27, 2012 attracted many local and international delegates, presenting a balanced mixture of intellect and research both from the East and from the West. Upon a strenuous peer-review process the best submissions were selected leading to an exciting, rich and a high quality technical conference program, which featured high-impact presentations in the latest developments of various areas of computer science, engineering and applications research.

The International Conference on Signals, Systems and

Automation (ICSSA 2011) aims to spread awareness in the research and academic community regarding cutting-edge technological advancements revolutionizing the world. The main emphasis of this conference is on dissemination of information, experience, and research results on the current topics of interest through in-depth discussions and participation of researchers from all over the world. The objective is to provide a platform to scientists, research scholars, and industrialists for interacting and exchanging ideas in a number of research areas. This will facilitate communication among researchers in different fields of Electronics and Communication Engineering. The International Conference on Intelligent System and Data Processing (ICISD 2011) is organized to address various issues that will foster the creation of intelligent solutions in the future. The primary goal of the conference is to bring together worldwide leading researchers, developers, practitioners, and educators interested in advancing the state of the art in computational intelligence and data processing for exchanging knowledge that encompasses a broad range of disciplines among various distinct communities. Another goal is to promote scientific information interchange between researchers, developers, engineers, students, and practitioners working in India and abroad.

These are the proceedings of the International Conference on ISMAC-CVB, held in Palladam, India, in May 2018. The book focuses on research to design new analysis paradigms and computational solutions for quantification of information provided by object

recognition, scene understanding of computer vision and different algorithms like convolutional neural networks to allow computers to recognize and detect objects in images with unprecedented accuracy and to even understand the relationships between them. The proceedings treat the convergence of ISMAC in Computational Vision and Bioengineering technology and includes ideas and techniques like 3D sensing, human visual perception, scene understanding, human motion detection and analysis, visualization and graphical data presentation and a very wide range of sensor modalities in terms of surveillance, wearable applications, home automation etc. ISMAC-CVB is a forum for leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of computational vision and bioengineering.