

## Iris Recognition Using Hough Transform Matlab Code

Proceedings of ICT4SD 2016, Volume 2  
 4th International Symposium, ISICS 2022, Santiago, Chile, March 23-25, 2022, Proceedings  
 Pattern Recognition and Image Analysis  
 Proceedings of ICT4SD 2016  
 ICIPCN 2021  
 11th International Conference, ICIAR 2014, Vilamoura, Portugal, October 22-24, 2014, Proceedings, Part II  
 Third International Conference, PReMI 2009 New Delhi, India, December 16-20, 2009 Proceedings  
 2nd International Conference on Signals, Systems & Automation (ICSSA 2011) & 1st International Conference on Intelligent Systems & Data Processing (ICISD 2011)  
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 Proceedings of the Multi-Conference 2011  
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### MORROW BURKE

**Proceedings of ICT4SD 2016, Volume 2** Springer Science & Business Media

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.

**4th International Symposium, ISICS 2022, Santiago, Chile, March 23-25, 2022, Proceedings** Springer

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.

**Pattern Recognition and Image Analysis** CRC Press

This volume presents the selected papers of the First International Conference on Fundamental Research in Electrical Engineering, held at Khwarazmi University, Tehran, Iran in July, 2017. The selected papers cover the whole spectrum of the main four fields of Electrical Engineering (Electronic, Telecommunications, Control, and Power Engineering).

**Proceedings of ICT4SD 2016** Universal-Publishers

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.

[ICIPCN 2021 IGI Global](#)

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.

[11th International Conference, ICIAR 2014, Vilamoura, Portugal, October 22-24, 2014, Proceedings, Part II Springer](#)

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.

[Third International Conference, PReMI 2009 New Delhi, India, December 16-20, 2009 Proceedings Springer](#)

This book constitutes the refereed proceedings of the 9th Chinese Conference on Biometric Recognition, CCBIR 2014, held in Shenyang, China, in November 2014. The 60 revised full papers presented were carefully reviewed and selected from among 90 submissions. The papers focus on face, fingerprint and palmprint, vein biometrics, iris and ocular biometrics, behavioral biometrics, application and system of biometrics, multi-biometrics and information fusion, other biometric recognition and processing.

[2nd International Conference on Signals, Systems & Automation \(ICSSA 2011\) & 1st International Conference on Intelligent Systems & Data Processing \(ICISD 2011\) CRC Press](#)

This book constitutes the refereed proceedings of the International Conference on Biometrics, ICB 2006, held in Hong Kong, China in January 2006. The book includes 104 revised full papers covering such areas of biometrics as the face, fingerprint, iris, speech and signature, biometric fusion and performance evaluation, gait, keystrokes, and more. In addition the results of the Face Authentication Competition (FAC 2006) are also announced in this volume.

[Pattern Recognition and Machine Intelligence Springer](#)

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.

[Proceedings of ICACIE 2016, Volume 1 BoD - Books on Demand](#)

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.

[Swarm Intelligence for Iris Recognition LAP Lambert Academic Publishing](#)

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.

[Computation and Communication Technologies Springer Science & Business Media](#)

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.

[A. Eye Detection Using Variants of Hough Transform B. Off-Line Signature Verification Springer Science & Business Media](#)

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.

[Progress in Advanced Computing and Intelligent Engineering LAP Lambert Academic Publishing](#)

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.

[Cross Disciplinary Biometric Systems Springer Nature](#)

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.

[Advances in Computer Science and Engineering Springer Nature](#)

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

[Modeling Applications and Theoretical Innovations in Interdisciplinary Evolutionary Computation Springer](#)

It is our pleasure to welcome you to the proceedings of the 13th International Computer 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

[Advances in Data Science, Cyber Security and IT Applications Springer](#)

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.

[Intelligent Computing Systems Springer Nature](#)

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.

*First International Conference on Computing, ICC 2019, Riyadh, Saudi Arabia, December 10–12, 2019, Proceedings, Part II* Springer

Cross disciplinary biometric systems help boost the performance of the conventional systems. Not only is the recognition accuracy significantly improved, but also the robustness of the systems is greatly enhanced in the challenging environments, such as varying illumination conditions. By

leveraging the cross disciplinary technologies, face recognition systems, fingerprint recognition systems, iris recognition systems, as well as image search systems all benefit in terms of recognition performance. Take face recognition for an example, which is not only the most natural way human beings recognize the identity of each other, but also the least privacy-intrusive means because people show their face publicly every day. Face recognition systems display superb performance when they capitalize on the innovative ideas across color science, mathematics, and computer science (e.g., pattern recognition, machine learning, and image processing). The novel ideas lead to the development of new color models and effective color features in color science; innovative features from wavelets and statistics, and new kernel methods and novel kernel models in mathematics; new discriminant analysis frameworks, novel similarity measures, and new image analysis methods, such as fusing multiple image features from frequency domain, spatial domain, and color domain in computer science; as well as system design, new strategies for system integration, and different fusion strategies, such as the feature level fusion, decision level fusion, and new fusion strategies with novel similarity measures.

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