

Face Recognition System Using Pca Lda Jacobi Method

Over the last decades, numerous face recognition methods have been proposed to overcome the problem limited by the current technology associated with face variations. Among them, the PCA/LDA method has known to be one of the best face recognition methods. In this thesis, we implement a face recognition method, using PCA&LDA Algorithm and compare the both algorithms with respect to time, memory and accuracy. Face recognition has received substantial attention from researchers in biometrics, pattern recognition field and computer vision communities. Face recognition can be applied in Security measure at Air ports, Passport verification, Criminals list verification in police department, Visa processing, Verification of Electoral identification and Card Security measure at ATMs.

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.

Face recognition has been a very challenging and difficult problem. In spite of the great work done in the last four decades, it can be sure that the face recognition research community will have work to do during, at least, the next two decades to completely solve the problem. This book gives the introduction to information security, digital rights management, biometrics, and brief introduction to still image base d face recognition system. It also covers the brief review of the PCA based face recognition techniques.

This book contains a selection of refereed and revised papers of Intelligent Techniques and Applications track, and the Special Track on Intelligent Image Processing and Artificial Vision track originally presented at The International Symposium on Intelligent Systems Technologies and Applications (ISTA), August 10-13, 2015, Kochi, India.

An Integrated Approach to Home Security and Safety Systems

Volume 1

Proceedings of the Second International Conference on Advances in Computing and Information Technology (ACITY) July 13-15, 2012, Chennai, India - Volume 2

Advanced Intelligent Systems for Sustainable Development (AI2SD'2020)

Soft Computing and Signal Processing

Select Proceedings of VSPICE 2020

Face Recognition

The purpose of this book, entitled Face Analysis, Modeling and Recognition Systems is to provide a concise and comprehensive coverage of artificial face recognition domain across four major areas of interest: biometrics, robotics, image databases and cognitive models. Our book aims to provide the reader with current state-of-the-art in these domains. The book is composed of 12 chapters which are grouped in four sections. The chapters in this book describe numerous novel face analysis techniques and approach many unsolved issues. The authors who contributed to this book work as professors and researchers at important institutions across the globe, and are recognized experts in the scientific fields approached here. The topics in this book cover a wide range of issues related to face analysis and here are offered many solutions to open issues. We anticipate that this book will be of special interest to researchers and academics interested in computer vision, biometrics, image processing, pattern recognition and medical diagnosis.

The 18th International Conference on Electrical Engineering Electronics, Computer, Telecommunications and Information Technology (ECTI CON 2021) is the annual international conference organized by Electrical Engineering Electronics, Computer, Telecommunications and Information Technology (ECTI) Association, Thailand The conference aims to provide an international platform to present technological advances, launch new ideas and showcase research work in the field of electrical engineering, electronics, computer, telecommunications and information technology

*3D Face Recognition Using PCA*The Robust Face Recognition System Using Matlab&LAP Lambert Academic Publishing

The conference will cover a broad area of electrical and electronic engineering, computer science and engineering, biomedical engineering, industrial management It is targeted on results of research carried out by young researchers (Master and PhD students, engineers)

6th International Conference, ICIAE 2009, Halifax, Canada, July 6-8, 2009, Proceedings

3D Face Recognition Using PCA

Педагогическая практика в школе по физическому воспитанию

International Conference, AIM 2011, Nagpur, Maharashtra, India, April 21-22, 2011, Proceedings

Face Recognition Using Principal Component Analysis

2019 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering (IEEConRus)

Proceedings of the International Conference on CIDM, 5-6 December 2015

This is not a purely mathematical book. It presents the basic principle of wavelet theory to electrical and electronic engineers, computer scientists, and students, as well as the ideas of how wavelets can be applied to pattern recognition. It also contains many novel research results from the authors' research team.

This book constitutes the refereed proceedings of the International Workshop on Multimedia Content Representation, Classification and Security, MRCS 2006. The book presents 100 revised papers together with 4 invited lectures. Coverage includes biometric recognition, multimedia content security, steganography, watermarking, authentication, classification for biometric recognition, digital watermarking, content analysis and representation, 3D object retrieval and classification, representation, analysis and retrieval in cultural heritage, content representation, indexing and retrieval, and more.

Nothing provided!

Towards Smart World: Homes to Cities Using Internet of Things provides an overview of basic concepts from the rising of machines and communication to IoT for making cities smart, real-time applications domains, related technologies, and their possible solutions for handling relevant challenges. This book highlights the utilization of IoT for making cities smart and its underlying technologies in real-time application areas such as emergency departments, intelligent traffic systems, indoor and outdoor securities, automotive industries, environmental monitoring, business entrepreneurship, facial recognition, and motion-based object detection. Features The book covers the challenging issues related to sensors, detection, and tracking of moving objects, and solutions to handle relevant challenges. It contains the most recent research analysis in the domain of communications, signal processing, and computing sciences for facilitating smart homes, buildings, environmental conditions, and cities. It presents the readers with practical approaches and future direction for using IoT in smart cities and discusses how it deals with human dynamics, the ecosystem, and social objects and their relation. It describes the latest technological advances in IoT and visual surveillance with their implementations. This book is an ideal resource for IT professionals, researchers, undergraduate or postgraduate students, practitioners, and technology developers who are interested in gaining academic career. She is an active nationally recognized researcher who has published numerous papers in her field.

Enhancing Performance of Real-time Face Recognition System Using PCA

Emerging Trends in Image Processing, Computer Vision and Pattern Recognition

Face Analysis, Modeling and Recognition Systems

Computational Science and Technology

Pose Invariant Face Recognition Using Pca

Proceedings of International Ethical Hacking Conference 2019

Advances in Web and Network Technologies, and Information Management

This book constitutes the refereed combined proceedings of four international workshops held in conjunction with the joint 9th Asia-Pacific Web Conference, APWeb 2007, and the 8th International Conference on Web-Age Information Management, WAIM 2007, held in Huang Shan, China in June 2007: DBMAN 2007, WebETrends 2007, PAIS 2007, and ASWAN 2007.

This book constitutes the refereed proceedings of the 6th International Conference on Image Analysis and Recognition, ICIAE 2009, held in Halifax, Canada, in July 2009. The 93 revised full papers presented were carefully reviewed and selected from 164 submissions. The papers are organized in topical sections on image and video processing and analysis; image segmentation; image and video retrieval and indexing; pattern analysis and recognition; biometrics face recognition; shape analysis; motion analysis and tracking; 3D image analysis; biomedical image analysis; document analysis and applications.

The book covers different aspects of real-world applications of optimization algorithms. It provides insights from the Fourth International Conference on Harmony Search, Soft Computing and Applications held at BML Munjal University, Gurgaon, India on February 7-9, 2018. It consists of research articles on novel and newly proposed optimization algorithms; the theoretical study of nature-inspired optimization algorithms; numerically established results of nature-inspired optimization algorithms; and real-world applications of optimization algorithms and synthetic benchmarking of optimization algorithms.

Project Report from the year 2012 in the subject Engineering - Computer Engineering, Gujarat University, course: Electronics and communication, language: English, abstract: This thesis describes a face recognition system that overcomes the problem of changes in gesture and mimics in three-dimensional (3D) range images. Here, we propose a local variation detection and restoration method based on the two-dimensional (2D) principal component analysis (PCA). The depth map of a 3D facial image is first smoothed using median filter to minimize the local variation. The detected face shape is cropped & normalized to a standard image size of 101x101 pixels and the forefront nose point is selected to be the image center. Facial depthvalues are scaled between 0 and 255 for translation and scaling-invariant identification. The preprocessed face image is smoothed to minimize the local variations. The 2DPCA is applied to the resultant range data and the corresponding principal-(or eigen-) images are used as the characteristic feature vectors of the subject to find his/her identity in the database of pre-recorded faces. The system's performance is tested against the GavabDB facial databases. Experimental results show that the proposed method is able to identify subjects with different gesture and mimics in the presence of noise in their 3D facial image.

Enhancement and Extensions of Principal Component Analysis for Face Recognition

Harmony Search and Nature Inspired Optimization Algorithms

International Conference on Life System Modeling, and Simulation, LSM5 2007, Shanghai, China, September 14-17, 2007. Proceedings

Proceedings of the 5th International Conference on Frontiers in Intelligent Computing: Theory and Applications

Theory and Applications, ICHSA 2011

Proceedings of the 11th National Technical Seminar on Unmanned System Technology 2019

This book describes a face recognition system that overcomes the problem of changes in gesture and mimics in three-dimensional (3D) range images. Here, we propose a local variation detection and restoration method based on the two-dimensional (2D) principal component analysis (PCA). The depth map of a 3D facial image is first smoothed using median filter to minimize the local variation. The detected face shape is cropped & normalized to a standard image size of 101x101 pixels and the forefront nose point is selected to be the image center. Facial depth-values are scaled between 0 and 255 for translation and scaling-invariant identification. The preprocessed face image is smoothed to minimize the local variations. The 2DPCA is applied to the resultant range data and the corresponding principal-(or eigen-) images are used as the characteristic feature vectors of the subject to find his/her identity in the database of pre-recorded faces. The system's performance is tested against the GavabDB facial databases. Experimental results show that the proposed method is able to identify subjects with different gesture and mimics in the presence of noise in their 3D facial images.

This book provides an integrated solution for security and safety in the home, covering both assistance in health monitoring and safety from strangers/intruders who want to enter the home with harmful intentions. It defines a system whereby recognition of a person/stranger at the door is done using three modules: Face Recognition, Voice Recognition and Similarity Index. These three modules

taken together to provide a percentage likelihood that the individual is in the "known" or "unknown" category. The system can also continuously monitor the health parameters of a vulnerable person living alone at home and aid them in calling for help in an emergency. The authors have analyzed a number of existing biometric techniques to provide security for an individual living alone at home.

The book is a collection of high-quality peer-reviewed research papers presented at International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2016) held at School of Computer Engineering, KIIT University, Bhubaneswar, India during 16 – 17 September 2016. The book presents theories, methodologies, new ideas, experiences and applications in all areas of intelligent computing and its applications to various engineering disciplines like computer science, electronics, electrical and mechanical engineering.

This book is part of a two-volume work that constitutes the refereed proceedings of the International Conference on Life System Modeling and Simulation, LSM5 2007, held in Shanghai, China, September 2007. Coverage includes modeling and simulation of societies and collective behavior, computational methods and intelligence in biomechanical systems, tissue engineering and clinical bioengineering, computational intelligence in bioinformatics and biometrics, and brain stimulation.

This book includes research papers from the 11th National Technical Symposium on Unmanned System Technology. Covering a number of topics, including intelligent robotics, novel sensor technology, control algorithms, acoustics signal processing, imaging techniques, biomimetic robots, green energy sources, and underwater communication backbones and protocols, it will appeal to researchers developing marine technology solutions and policy-makers interested in technologies to facilitate the exploration of coastal and oceanic regions.

Primarily due to increasing security demands and potential commercial and law enforcement applications, automatic face recognition has been a subject of extensive study in the past several decades, and remains an active field of research as of today. As a result, numerous techniques and algorithms for face recognition have been developed, many of them proving effective in one way or another. Nevertheless, it has been realized that constructing good solutions for automatic face recognition remains to be a challenge. The last two decades have witnessed significant progress in the development of new methods for automatic face recognition, some being effective and robust against pose, illumination and facial expression variations, while others being able to deal with large-scale data sets. On all accounts, the development of state-of-the-art face recognition systems

has been recognized as one of the most successful applications of image analysis and understanding. Among others, the principal component analysis (PCA) developed in the early 1990s has been a popular unsupervised statistical method for data analysis, compression and visualization, and its application to face recognition problems has proven particularly successful. The importance of PCA consists in providing an efficient data compression with reduced information loss, and efficient implementation using singular value decomposition (SVD) of the data matrix. Since its original proposal, many variations of the standard PCA algorithm have emerged. This thesis is about enhancement and extensions of the standard PCA for face recognition. Our contributions are twofold. First, we develop a set of effective pre-processing techniques that can be employed prior to PCA in order to obtain improved recognition rate. Among these, a technique known as perfect histogram matching (PHM) is shown to perform very well. Other pre-processing methods we present in this thesis include an extended sparse PCA algorithm for dimensional.

Facial Recognition Vehicle Theft Prevention System Using PCA Algorithm

Life System Modeling and Simulation

The Mathematics of Data

Computational Intelligence in Data Mining–Volume 1

Face Image Analysis by Unsupervised Learning

FICTA 2016, Volume 1

APWeb/WAIM 2007 International Workshops: DBMAN 2007, WebETrends 2007, PAIS 2007 and ASWAN 2007, Huang Shan, China, June 16-18, 2007, Proceedings

The book is a collection of high-quality peer-reviewed research papers presented at International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2016) held at School of Computer Engineering, KIIT University, Bhubaneswar, India during 16 – 17 September 2016. The book presents theories, methodologies, new ideas, experiences and applications in all areas of intelligent computing and its applications to various engineering disciplines like computer science, electronics, electrical and mechanical engineering.

Both face detection and recognition are very curious areas in the field of image analysis, computer vision and pattern recognition that has received a big deal of attention over the last few years. It has been widely used for the purpose of security and forensic science for identify of an individual e.g., at the place of video surveillance, airports, traffic, terrorist attacks. To analyze the information of face images: faster, robust and efficient face detection and recognition algorithms are required. This system has been facing problems in recognizing subjects of varying poses, illumination conditions, facial expressions, and face occlusions. Due to variation in pose relative to camera certain features like smile, open eyes or mouth, left side or right side of mouth or eyes, occluded mouth or eyes can't be detected and extracted properly. It will be a critical task to detect a person with varying poses in vertical direction. In this work we present, face detection is performed by skin tone. Through PCA extract features and system is getting trained and tested. For face recognition process, Euclidean distance is measured and based on that minimum distance face is recognized

The objectives of this project are as follows: i) To implement facial recognition in an embedded system based on a Raspberry Pi. ii) To reduce feature dimensions using a principal component analysis algorithm. iii) To evaluate the performance of the propose method using the ORL dataset.

Intelligent transport systems are on the increase. They employ a variety of technologies, from basic management systems to more advanced application systems, with information technology – including wireless communication, computational technologies, floating car data/cellular data such as sensing technologies and video vehicle detection – playing a major role.

This book presents the proceedings of the 2nd International Conference on Information Technology and Intelligent Transportation Systems (ITITS 2017), held in Xi'an, People's Republic of China, in June 2017. The conference provides a platform for professionals and researchers from industry and academia to present and discuss recent advances in the field of information technology and intelligent transportation systems; organizations and researchers involved in these fields, including distinguished academics from around the world, explore theoretical and applied topics such as emergency vehicle notification systems, automatic road enforcement, collision avoidance systems and cooperative systems. ITITS 2017 received more than 200 papers from 4 countries, and the 65 accepted papers appear in this book, which will be of interest to all those involved with the development of intelligent transport systems.

Proceedings of the 2nd International Conference on Information Technology and Intelligent Transportation Systems (ITITS 2017), Xi'an, China, June 10, 2017

Innovative Data Communication Technologies and Application

2021 18th International Conference on Electrical Engineering Electronics, Computer, Telecommunications and Information Technology (ECTI Con)

Proceedings of 4th ICSCSP 2021

пособие для студентов педагогических институтов

Information Technology and Mobile Communication

2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT)

This book features the proceedings of the Fifth International Conference on Computational Science and Technology 2018 (ICCS2018), held in Kota Kinabalu, Malaysia, on 29–30 August 2018. Of interest to practitioners and researchers, it presents exciting advances in computational techniques and solutions in this area. It also identifies emerging issues to help shape future research directions and enable industrial users to apply cutting-edge, large-scale and high-performance computational methods.

This book presents emerging concepts in data mining, big data analysis, communication, and networking technologies, and discusses the state-of-the-art in data engineering practices to tackle massive data distributions in smart networked environments. It also provides insights into potential data distribution challenges in ubiquitous data-driven networks, highlighting research on the theoretical and systematic framework for analyzing, testing and designing intelligent data analysis models for evolving communication frameworks. Further, the book showcases the latest developments in wireless sensor networks, cloud computing, mobile network, autonomous systems, cryptography, automation, and other communication and networking technologies. In addition, it addresses data security, privacy and trust, wireless networks, data classification, data prediction, performance analysis, data validation and verification models, machine learning, sentiment analysis, and various data analysis techniques.

The book is a collection of high-quality peer-reviewed research papers presented in the Second International Conference on Computational Intelligence in Data Mining (ICCIDM 2015) held at Bhubaneswar, Odisha, India during 5 – 6 December 2015. The two-volume Proceedings address the difficulties and challenges for the seamless integration of two core disciplines of computer science, i.e. computational intelligence and data mining. 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.

This book presents selected research papers on current developments in the fields of soft computing and signal processing from the Fourth International Conference on Soft Computing and Signal Processing (ICSCSP 2021). The book covers topics such as soft sets, rough sets, fuzzy logic, neural networks, genetic algorithms and machine learning and discusses various aspects of these topics, e.g., technological considerations, product implementation and application issues.

Towards Smart World

Information Technology and Intelligent Transportation Systems

The Robust Face Recognition System Using Matlab

Volume 2

Face Recognition Using PCA Implemented on Raspberry PI

NUSYS'19

eHaCON 2019, Kolkata, India

This book publishes the best papers accepted and presented at the 3rd edition of the International Conference on Advanced Intelligent Systems for Sustainable Development Applied to Agriculture, Energy, Health, Environment, Industry, Education, Economy, and Security (AI2SD2020). This conference is one of the biggest amalgamations of eminent researchers, students, and delegates from both academia and industry where the collaborators have an interactive access to emerging technology and approaches globally. In this book, readers find the latest ideas addressing technological issues relevant to all areas of the social and human sciences for sustainable development. Due to the nature of the conference with its focus on innovative ideas and developments, the book provides the ideal scientific and brings together very high-quality chapters written by eminent researchers from different disciplines, to discover the most recent developments in scientific research.

The aim of the research is to develop a PCA face recognition and tracking system based on Arduino Mega attached with GPS and GSM to prevent vehicle from getting stolen. The objectives are specifically elucidated below : to develop a face recognition system using PCA and face detection using Viola Jones ; to develop tracking system using GPS and GSM base on Arduino Mega board ; to validate the facial recognition vehicle theft prevention system using PCA algorithm

This book constitutes the refereed proceedings of the International Conference on Advances in Information Technology and Mobile Communication AIM 2011, held at Nagpur, India, in April 2011. The 31 revised full papers presented together with 27 short papers and 34 poster papers were carefully reviewed and selected from 313 submissions. The papers cover all current issues in theory, practices, and applications of information Technology, Computer and Mobile Communication Technology and related topics.

Face Image Analysis by Unsupervised Learning explores adaptive approaches to image analysis. It draws upon principles of unsupervised learning and information theory to adapt processing to the immediate task environment. In contrast to more traditional approaches to image analysis in which relevant structure is determined in advance and extracted using hand-engineered techniques, Face Image Analysis by Unsupervised Learning explores methods that have roots in biological vision and/or learn about the image structure directly from the image ensemble. Particular attention is paid to unsupervised learning techniques for encoding the statistical dependencies in the image ensemble. The first part of this volume reviews unsupervised learning, information theory, independent component analysis, and their relation to biological vision. Next, a face image representation using independent component analysis (ICA) is developed, which is an unsupervised learning technique based on optimal information transfer between neurons. The ICA representation is compared to a number of other face representations including eigenfaces and Gabor wavelets on tasks of identity recognition and expression analysis. Finally, methods for learning features that are robust to changes in viewpoint and lighting are presented. These studies provide evidence that encoding input dependencies through unsupervised learning is an effective strategy for face recognition. Face

Image Analysis by Unsupervised Learning is suitable as a secondary text for a graduate-level course, and as a reference for researchers and practitioners in industry.

Advances in VLSI, Signal Processing, Power Electronics, IoT, Communication and Embedded Systems

International Workshop, MRCS 2006, Istanbul, Turkey, September 11-13, 2006, Proceedings

From Theory to Applications

Image Analysis and Recognition

Face Recognition Using Pca and Lda Algorithm

Proceedings of ICACIE 2016, Volume 1

Wavelet Theory and Its Application to Pattern Recognition

Emerging Trends in Image Processing, Computer Vision, and Pattern Recognition discusses the latest in trends in imaging science which at its core consists of three intertwined computer science fields, namely: Image Processing, Computer Vision, and Pattern Recognition. There is significant renewed interest in each of these three fields fueled by Big Data and Data Analytic initiatives including but not limited to; applications as diverse as computational biology, biometrics, biomedical imaging, robotics, security, and knowledge engineering. These three core topics discussed here provide a solid introduction to image processing along with low-level processing techniques, computer vision fundamentals along with examples of applied applications and pattern recognition algorithms and methodologies that will be of value to the image processing and computer vision research communities. Drawing upon the knowledge of recognized experts with years of practical experience and discussing new and novel applications Editors' Leonidas Deligiannidis and Hamid Arabnia cover: Many perspectives of image processing spanning from fundamental mathematical theory and sampling, to image representation and reconstruction, filtering in spatial and frequency domain, geometrical transformations, and image restoration and segmentation Key application techniques in computer vision

some of which are camera networks and vision, image feature extraction, face and gesture recognition and biometric authentication Pattern recognition algorithms including but not limited to; Supervised and unsupervised classification algorithms, Ensemble learning algorithms, and parsing algorithms. How to use image processing and visualization to analyze big data. Discusses novel applications that can benefit from image processing, computer vision and pattern recognition such as computational biology, biometrics, biomedical imaging, robotics, security, and knowledge engineering. Covers key application techniques in computer vision from fundamentals to mid to high level processing some of which are camera networks and vision, image feature extraction, face and gesture recognition and biometric authentication. Presents a number of pattern recognition algorithms and methodologies including but not limited to; supervised and unsupervised classification algorithms, Ensemble learning algorithms, and parsing algorithms.

Explains how to use image processing and visualization to analyze big data.

This book comprises select peer-reviewed papers from the International Conference on VLSI, Signal Processing, Power Electronics, IoT, Communication and Embedded Systems (VSPICE-2020). The book provides insights into various aspects of the emerging fields in the areas Electronics and Communication Engineering as a holistic approach. The various topics covered in this book include VLSI, embedded systems, signal processing, communication, power electronics and internet of things. This book mainly focuses on the most recent innovations, trends, concerns and practical challenges and their solutions. This book will be useful for academicians, professionals and researchers in the area of electronics and communications and electrical engineering.

The NATO Advanced Study Institute (ASI) on Face Recognition: From Theory to Applications took place in Stirling, Scotland, UK, from June 23 through July 4, 1997. The meeting brought together 95 participants (including 18 invited lecturers) from 22 countries. The lecturers are leading researchers from academia, government, and industry from all over the world. The lecturers presented an encompassing view of face recognition, and identified trends for future developments and the means for implementing robust face recognition systems. The scientific programme consisted of invited lectures, three panels, and (oral and poster) presentations from students attending the ASI. As a result of lively interactions between the participants, the following topics emerged as major themes of the meeting: (i) human processing of face recognition and its relevance to forensic systems, (ii) face coding, (iii) connectionist methods and support vector machines (SVM), (iv) hybrid methods for face recognition, and (v) predictive learning and performance evaluation. The goals of the panels were to provide links among the lecturers and to emphasize the themes of the meeting. The topics of the panels were: (i) How the human visual system processes faces, (ii) Issues in applying face recognition: data bases, evaluation and systems, and (iii) Classification issues involved in face recognition.

The presentations made by students gave them an opportunity to receive feedback from the invited lecturers and suggestions for future work.

Progress in Advanced Computing and Intelligent Engineering

5th ICCST 2018, Kota Kinabalu, Malaysia, 29-30 August 2018