



A MATLAB based Face Recognition using PCA with Back Propagation Neural network

Priyanka Dhoke¹, M.P. Parsai²

Dept. of Electronics and Communication, Jabalpur Engineering College, Jabalpur (M.P.), India¹

Professor, Dept. of Electronics and Communication, Jabalpur Engineering College, Jabalpur (M.P.), India²

ABSTRACT: Automatic recognition of people is a challenging problem which has received much attention during recent years due to its many applications in different fields. Face recognition is one of those challenging problems and up to date, there is no technique that provides a robust solution to all situations. There are many techniques used for this purpose. Face recognition is an effective means of authenticating a person. In this paper, a face recognition system for personal identification and verification using Principal Component Analysis (PCA) with Back Propagation Neural Networks (BPNN) is proposed. The dimensionality of face image is reduced by the PCA and the recognition is done by the BPNN for face recognition. The system consists of a database of a set of facial patterns for each individual. The characteristic features of pca called 'eigenfaces' are extracted from the stored images, which is combine with Back Propagation Neural Network for subsequent recognition of new images.

KEYWORDS: Neural Networks, Principal Component Analysis, Eigen Values, Eigen Vector, Back Propagation Neural Network

I. INTRODUCTION

Face recognition has a large number of applications, including security, person verification, Internet communication, and computer entertainment. Although research in automatic face recognition has been conducted since the 1960s, this problem is still largely unsolved. Recent years have seen significant progress in this area owing to advances in face modelling and analysis techniques. Systems have been developed for face detection and tracking, but reliable face recognition still offers a great challenge to computer vision and pattern recognition researchers. There are several reasons for recent increased interest in face recognition, including rising public concern for security, the need for identity verification in the digital world, and the need for face analysis and modelling techniques in multimedia data management and computer entertainment. Recent advances in automated face analysis, pattern recognition, and machine learning have made it possible to develop automatic face recognition systems to address these applications. In this paper we proposed a mathematical model and computational model of face recognition which is fast, reasonably simple, and accurate in constrained environment. Face recognition using eigenface has been shown to be accurate and fast. When BPNN technique is combine with PCA non-linear face images can be recognised easily. [1][5]

II. WORKING MODEL

The system involves three steps (Fig1):

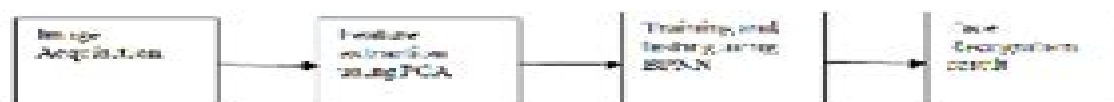


Fig1: Generic representation of a face recognition system

Face Recognition Using Backpropagation Neural Network In Matlab Code

Chao Zhang



Face Recognition Using Backpropagation Neural Network In Matlab Code:

Face Recognition Using Backpropagation Neural Network In Matlab Code Book Review: Unveiling the Magic of Language

In an electronic era where connections and knowledge reign supreme, the enchanting power of language has become much more apparent than ever. Its power to stir emotions, provoke thought, and instigate transformation is actually remarkable. This extraordinary book, aptly titled "**Face Recognition Using Backpropagation Neural Network In Matlab Code**," compiled by a very acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound effect on our existence. Throughout this critique, we shall delve into the book's central themes, evaluate its unique writing style, and assess its overall influence on its readership.

<https://staging.conocer.cide.edu/data/detail/HomePages/mazda%20capella%20service%20manual.pdf>

Table of Contents Face Recognition Using Backpropagation Neural Network In Matlab Code

1. Understanding the eBook Face Recognition Using Backpropagation Neural Network In Matlab Code
 - The Rise of Digital Reading Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Advantages of eBooks Over Traditional Books
2. Identifying Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in a Face Recognition Using Backpropagation Neural Network In Matlab Code
 - User-Friendly Interface
4. Exploring eBook Recommendations from Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Personalized Recommendations
 - Face Recognition Using Backpropagation Neural Network In Matlab Code User Reviews and Ratings

- Face Recognition Using Backpropagation Neural Network In Matlab Code and Bestseller Lists
- 5. Accessing Face Recognition Using Backpropagation Neural Network In Matlab Code Free and Paid eBooks
 - Face Recognition Using Backpropagation Neural Network In Matlab Code Public Domain eBooks
 - Face Recognition Using Backpropagation Neural Network In Matlab Code eBook Subscription Services
 - Face Recognition Using Backpropagation Neural Network In Matlab Code Budget-Friendly Options
- 6. Navigating Face Recognition Using Backpropagation Neural Network In Matlab Code eBook Formats
 - ePub, PDF, MOBI, and More
 - Face Recognition Using Backpropagation Neural Network In Matlab Code Compatibility with Devices
 - Face Recognition Using Backpropagation Neural Network In Matlab Code Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Highlighting and Note-Taking Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Interactive Elements Face Recognition Using Backpropagation Neural Network In Matlab Code
- 8. Staying Engaged with Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Face Recognition Using Backpropagation Neural Network In Matlab Code
- 9. Balancing eBooks and Physical Books Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Face Recognition Using Backpropagation Neural Network In Matlab Code
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Setting Reading Goals Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Fact-Checking eBook Content of Face Recognition Using Backpropagation Neural Network In Matlab Code
 - Distinguishing Credible Sources

13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Face Recognition Using Backpropagation Neural Network In Matlab Code Introduction

Free PDF Books and Manuals for Download: Unlocking Knowledge at Your Fingertips In today's fast-paced digital age, obtaining valuable knowledge has become easier than ever. Thanks to the internet, a vast array of books and manuals are now available for free download in PDF format. Whether you are a student, professional, or simply an avid reader, this treasure trove of downloadable resources offers a wealth of information, conveniently accessible anytime, anywhere. The advent of online libraries and platforms dedicated to sharing knowledge has revolutionized the way we consume information. No longer confined to physical libraries or bookstores, readers can now access an extensive collection of digital books and manuals with just a few clicks. These resources, available in PDF, Microsoft Word, and PowerPoint formats, cater to a wide range of interests, including literature, technology, science, history, and much more. One notable platform where you can explore and download free Face Recognition Using Backpropagation Neural Network In Matlab Code PDF books and manuals is the internet's largest free library. Hosted online, this catalog compiles a vast assortment of documents, making it a veritable goldmine of knowledge. With its easy-to-use website interface and customizable PDF generator, this platform offers a user-friendly experience, allowing individuals to effortlessly navigate and access the information they seek. The availability of free PDF books and manuals on this platform demonstrates its commitment to democratizing education and empowering individuals with the tools needed to succeed in their chosen fields. It allows anyone, regardless of their background or financial limitations, to expand their horizons and gain insights from experts in various disciplines. One of the most significant advantages of downloading PDF books and manuals lies in their portability. Unlike physical copies, digital books can be stored and carried on a single device, such as a tablet or smartphone, saving valuable space and weight. This convenience makes it possible for readers to have their entire library at their fingertips, whether they are commuting, traveling, or simply enjoying a lazy afternoon at home. Additionally, digital files are easily searchable, enabling readers to locate specific information within seconds. With a few keystrokes, users can search for keywords, topics, or phrases, making research and finding relevant information a breeze. This efficiency saves time and effort, streamlining the learning process and allowing individuals to focus on extracting the information they need. Furthermore, the availability of free PDF books

and manuals fosters a culture of continuous learning. By removing financial barriers, more people can access educational resources and pursue lifelong learning, contributing to personal growth and professional development. This democratization of knowledge promotes intellectual curiosity and empowers individuals to become lifelong learners, promoting progress and innovation in various fields. It is worth noting that while accessing free Face Recognition Using Backpropagation Neural Network In Matlab Code PDF books and manuals is convenient and cost-effective, it is vital to respect copyright laws and intellectual property rights. Platforms offering free downloads often operate within legal boundaries, ensuring that the materials they provide are either in the public domain or authorized for distribution. By adhering to copyright laws, users can enjoy the benefits of free access to knowledge while supporting the authors and publishers who make these resources available. In conclusion, the availability of Face Recognition Using Backpropagation Neural Network In Matlab Code free PDF books and manuals for download has revolutionized the way we access and consume knowledge. With just a few clicks, individuals can explore a vast collection of resources across different disciplines, all free of charge. This accessibility empowers individuals to become lifelong learners, contributing to personal growth, professional development, and the advancement of society as a whole. So why not unlock a world of knowledge today? Start exploring the vast sea of free PDF books and manuals waiting to be discovered right at your fingertips.

FAQs About Face Recognition Using Backpropagation Neural Network In Matlab Code Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Face Recognition Using Backpropagation Neural Network In Matlab Code is one of the best book in our library for free trial. We provide copy of Face Recognition Using Backpropagation Neural Network In Matlab Code in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Face Recognition Using Backpropagation Neural Network In Matlab Code. Where to download Face Recognition Using Backpropagation Neural Network In Matlab Code online for free? Are you

looking for Face Recognition Using Backpropagation Neural Network In Matlab Code PDF? This is definitely going to save you time and cash in something you should think about.

Find Face Recognition Using Backpropagation Neural Network In Matlab Code :

mazda capella service manual

mazda manual transmission parts

[mazda rx8 digital workshop repair manual 2003 2008](#)

[mazda b3000 wiring diagram](#)

[mazda bt50 wlat](#)

[mc909g user guide](#)

[mazda bongo manual](#)

[mazda mx 5 factory manual](#)

mazda b3 series engine repair manual

[mazda b250workshop manual 1042](#)

mcas 3rd grade science questions and answers

mazda mpv 2015 wiring manual

[mazda rx 8 2009 2011 service and repair manual](#)

mbs comix trips german edition

[mazda b2200 service manual 87](#)

Face Recognition Using Backpropagation Neural Network In Matlab Code :

The Ultimate Jazz Fake Book - C Edition Buy the official Hal Leonard Fake Book, 'The Ultimate Jazz Fake Book - C Edition' (Sheet Music) The Ultimate Jazz Fake Book (Fake Books) C ... (Fake Book). This must-own collection includes 635 songs spanning all jazz styles from more than 9 decades from traditional to swing to modern jazz, ... Ultimate Jazz Fake Book : B Flat/No 240080 The Ultimate Jazz Fake Book includes: * More than 625 songs important to every jazz library * Carefully chosen chords with some common practice chord ... Ultimate Jazz Fake Book C Edition Ultimate Jazz Fake Book C Edition. Sale price\$49.99. SKU: 00240079. Fake Book Series The Ultimate Jazz Fake Book C Edition Series: Fake Book Composer: Various 49.99 ... The Ultimate Jazz Fake Book B-flat Edition. The Ultimate Jazz Fake Book B ... The Ultimate Jazz Fake Book (C Edition) (HL-00240079) The Ultimate Jazz Fake Book (C Edition) - This must-own collection includes 635 songs spanning

all jazz styles from more than 9 decades – from traditional ... The Ultimate Jazz Fake Book - C Edition Fake Book The Ultimate Jazz Fake Book - C Edition Fake Book ... Offer available through 11/30/23. Learn More. Default Title. The Ultimate Jazz Fake Book - ... The Ultimate Jazz Fake Book by Various Composers Buy The Ultimate Jazz Fake Book by Various Composers at jwpepper.com. Piano/Vocal Sheet Music. This must-own collection includes more than 625 songs spa. Jazz & Misc Fake Books Jazz & Misc Fake Books ; Ultimate Jazz Fakebook C Edition · 5263600 · C Instrument · \$49.99 ; Real Book Volume 1 · 21441300 · CD-ROM · \$29.99 ; Real Book Volume 2 ... The Magic of Psychograms: New Way... by Hitchcock, Helyn The mystical Psychograms revealed within these pages work like magic to solve your problems and attract all of the good things in life, states the author. The Magic of Psychograms: New Way to Power and ... The Magic of Psychograms: New Way to Power and Prosperity (BN 4016) ... Select Format. Hardcover – \$41.94. The magic of psychograms : new way to power and ... Apr 5, 2013 — The magic of psychograms : new way to power and prosperity ; Publication date: 1975 ; Topics: Occultism, Parapsychology, Success ; Publisher: West ... The Magic of Psychograms: New Way to Power and ... The Magic of Psychograms: New Way to Power and Prosperity by Hitchcock, Helyn - ISBN 10: 0135453437 - ISBN 13: 9780135453438 - Parker Pub. The Magic of Psychograms: New Way to Power and ... The Magic of Psychograms: New Way to Power and Prosperity. Helyn Hitchcock. 5.00. 2 ratings0 reviews. Want to read. Buy on Amazon. Rate this book. The Magic of Psychograms: New Way to Power... The Magic of Psychograms: New Way to Power... by Helyn Hitchcock. \$39.69. Format: Hardcover. Condition: Good. Quantity: 1. 1 available. Add to Cart. The magic of psychograms : new way to power and ... The magic of psychograms : new way to power and prosperity ; Author: Helyn Hitchcock ; Edition: View all formats and editions ; Publisher: Parker Pub. Co., West ... The Magic of Psychograms: New Way to Power and ... The Magic of Psychograms: New Way to Power and Prosperity ; EAN. 9780135453438 ; Accurate description. 5.0 ; Reasonable shipping cost. 5.0 ; Shipping speed. 5.0. The Magic of Psychograms - Helyn Hitchcock The Magic of Psychograms: New Way to Power and Prosperity. Author, Helyn Hitchcock. Publisher, Parker Publishing Company, 1975. ISBN, 0135453437, 9780135453438. The Magic of Psychograms: New Way to Power and ... The Magic of Psychograms: New Way to Power and Prosperity by Helyn Hitchcock isbn: 0135453437. isbn13: 9780135453438. author: Helyn Hitchcock. A Century of Miracles - H.A. Drake In A Century of Miracles, historian H. A. Drake explores the role miracle stories such as these played in helping Christians, pagans, and Jews think about ... A Century of Miracles: Christians, Pagans, Jews, and the ... May 11, 2018 — This book by H. A. Drake is aimed at a semi-popular audience, and is a showcase for his most valuable qualities: an engaging style, a patient ... A Century of Miracles: Christians, Pagans, Jews, and the ... In A Century of Miracles, historian H. A. Drake explores the role miracle stories played in helping Christians, pagans, and Jews think about themselves and each ... A Century of Miracles This strikingly unfamiliar image of a well-known modern battle brings us close to the world examined by Hal Drake in his new book, which puts miracles—or, more ... A Century of Miracles - H. A. Drake In A Century of Miracles, historian H.

A. Drake explores the role miracle stories played in helping Christians, pagans, and Jews think about themselves and each ... A Century of Miracles by Drake, H.A. A hugely fun read. One learns of Constantine's miraculous vision--both the pre-Christian version and the post-Christian rewrite. The one moves on to a lesser ... A Century of Miracles (Paperback) Oct 1, 2020 — In A Century of Miracles, historian H. A. Drake explores the role miracle stories such as these played in helping Christians, pagans, and Jews ... A Century of Miracles Oct 1, 2020 — Thoroughly researched within a wide range of faiths and belief systems, A Century of Miracles provides an absorbing illumination of this complex ... A Century of Miracles: Christians, Pagans, Jews, and the ... A Century of Miracles: Christians, Pagans, Jews, and the Supernatural, 312-410 by Drake, H. A. - ISBN 10: 0199367418 - ISBN 13: 9780199367412 - Oxford ... A Century of Miracles by H.A. Drake, Paperback In A Century of Miracles, historian H. A. Drake explores the role miracle stories such as these played in helping Christians, pagans, and Jews think about ...