All ⌄   🔍

ADVANCED SEARCH

Conferences >   2023 International Conference... ❓

Quantifying Emotions via ECG: A DWT-Driven Classification Framework

Publisher: IEEE | Cite This | 📄 PDF

Sindhu N ;   Jerritta S ;   Asish Nair   **All Authors** •••

82
Full
Text Views

® 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

| **Abstract** |

Document Sections

I. Introduction

II. Related Works

III. Literature Survey

IV. Methodology

V. Results and Discussions

Show Full Outline ⌄

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract:
Emotion has a significant impact on human psychology and physiology. Over the past two decades, there has been an increase in research on emotion, with contributions from... **View more**

⌄ **Metadata**
Abstract:
Emotion has a significant impact on human psychology and physiology. Over the past two decades, there has been an increase in research on emotion, with contributions from numerous disciplines, including computer science, psychology, sociology, and medicine. There has been a lot of in-depth research on this subject as a result of many attempts to explain the beginning, purpose, and other elements of emotion, which involve incorporating artificial intelligence and natural feelings and emotions into machines or systems. This paper presents a novel approach to ECG-based emotion recognition, leveraging the power of Discrete Wavelet Transform (DWT) for feature extraction. Additionally, this study employs the Statistical Package for the Social Sciences (SPSS) software to perform an Analysis of Variance (ANOVA)-based feature selection process. To classify emotions, Support Vector Machine (SVM) and K Nearest Neighbours (KNN) classifiers are utilized. The proposed methodology demonstrates promising results, highlighting the potential of ECG signals as a valuable physiological modality for accurate and robust emotion recognition. The comprehensive approach integrating DWT, SPSS, SVM, and KNN offers a valuable contribution to the field of affective computing and emotion recognition systems. The conclusions presented in this paper are useful for researchers seeking a synopsis of previous research in the field of ECG-based emotion recognition systems, identifying gaps in the area of study, and developing ideas for possible applications of emotion recognition systems.

ng [MathJax]/extensions/MathMenu.js

☰ **Contents**

I. Introduction

A new age in comprehending and using human emotions has begun in the modern environment of human-computer interaction, marked by the integration of affective computing and physiological observation. Researchers have looked into the field of Electrocardiogram (ECG)-based emotion identification in their quest to understand emotions, which have long been thought of as a complex aspect of the human experience. In addition to exemplifying the harmonious blending of cutting-edge technology with the nuanced intricacies of human feeling, this developing subject has the potential to transform several fields, ranging from mental health therapies to the design of human-computer interactions.

Sign in to Continue Reading

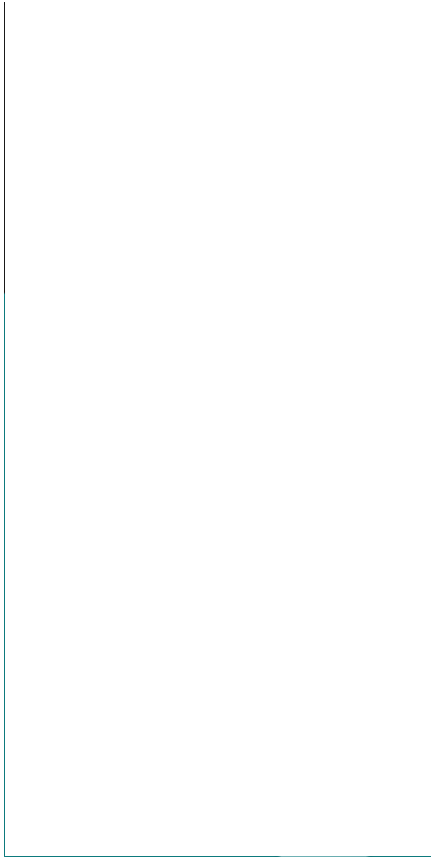| Authors	⌄
Figures	⌄
References	⌄
Keywords	⌄
Metrics	⌄

More Like This

Speech Emotion Recognition System Using Discrete Wavelet Transform and Support Vector Machine
2024 International Conference on Intelligent Systems and Computer Vision (ISCV)
Published: 2024

Brushless DC Motor Fault Classification Using Support Vector Machine Algorithm with Discrete Wavelet Transform Feature Extraction
2023 9th International Conference on Control, Automation and Robotics (ICCAR)
Published: 2023

Loading [MathJax]/extensions/MathMenu.js

Show More

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | IEEE Ethics Reporting ↗ | Sitemap |
IEEE Privacy Policy

IEEE Account

» Change Username/Password

» Update Address

Purchase Details

» Payment Options

» Order History

» View Purchased Documents

Profile Information

Loading [MathJax]/extensions/MathMenu.js

» Communications Preferences

» Profession and Education

» Technical Interests

Need Help?

» **US & Canada:** +1 800 678 4333

» **Worldwide:** +1 732 981 0060

» Contact & Support

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | Sitemap | Privacy & Opting Out of Cookies

Loading [MathJax]/extensions/MathMenu.js