EMOTION DECTECTION USING OpenCV

A project report submitted in partial fulfilment of the requirements

for the award of the Degree of

BACHELOR OF TECHNOLOGY

In

CSE- ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Submitted by:

V.SWATHI

Regd. No.20811A4232

Y. TEJA SIVA GANESH
Regd. No.20811A4235

N. JAHNAVI LAHARI
Regd. No.20811A4219

G. SURYASWIN
Regd. No.20811A4208

S. SIVA
Regd. No.20811A4228

Under the guidance of

Mr. N. DURGA PRASAD M.Tech, (Ph.D)

Associate professor

Department of Computer Science and Engineering

AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

(Approved by AICTE, New Delhi & Permanently affiliated to JNTU Gurajada Vizianagaram)

(Accredited by NAAC A+, UGC & NBA, AICTE)

MAKAVARAPALEM, NARSIPATNAM, VISAKHAPATNAM DIST (2020-2024)

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(Accredited by NAAC, UGC & NBA, AICTE)

MAKAVARAPALEM, NARSIPATNAM,
VISAKHAPATNAM-531113

CERTIFICATE

This is to certify that the project entitled, "EMOTION DECTECTION USING OpenCV" in partial fulfillment for the degree of **Bachelor of Technology** in **COMPUTER SCIENCE AND ENGINEERING – AIML**, at **AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY, MAKAVARAPALEM, VISAKHAPATNAM** is an bonafide work carried out by V. SWATHI (20811A4232), Y. TEJA SIVA GANESH (20811A4235), N.JAHNAVI LAHARI (20811A4219), G.SURYA ASWIN (20811A4208), S.SIVA (20811A4228) under the guidance and supervision during 2023-2024. Project Guide Head of the Department External Examiner.

Internal Guide
Mr. N. DURGA PRASAD M.Tech,(Ph.D)
Associate professor
Department of CSE

Head of the Department
N V ASHOK KUMAR M.Tech,(Ph.D)
Associate Professor
Department Of CSE-AI&ML
Head of the Department
Department Of CSE-AI&ML,Data Science
Avanthi Institute of Engg & Tech.
Makavarapalem, Anakapalli-531113.

External Examiner

ABSTRACT

Facial expressions play a crucial role in human communication, helping us understand others' intentions and emotional states. Recognizing facial expressions automatically is important for natural human-machine interfaces. This project implements a facial expression recognition system using Convolutional Neural Networks (CNNs) trained on a dataset of expressions such as happiness, sadness, surprise, anger, and neutrality.

The proposed method Deep Face identifies 26 facial points using an active shape model to detect real-time emotions in facial images. Creating databases of positive and negative images, training a classifier, and integrating it into software is part of the process who have the required skill sets and can meet particular requirements. Opportunity Search Volunteers can use a powerful search engine to look for possibilities. Filtering by a number of factors, including cause area, The system, utilizing OpenCV and NumPy, compares scanned images to training data to predict the emotions accurately. Facial expression analysis and sentiment analysis are essential for understanding human emotions. This emotion detection can aid in market research, psychology studies, and customer feedback analysis. In education, emotional-aware learning systems personalize tools according to students' emotional states, and mental health monitoring detects issues early for effective intervention. These applications emphasize the significance of emotion recognition technology in improving human interaction and well-being.