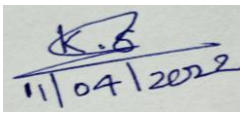
MES COLLEGE OF ENGINEERING, KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA246 – MAIN PROJECT

PRO FORMA FOR THE APPROVAL OF THE FOURTH SEMESTER MAIN PROJECT

(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Main Project Proposal No : _____ *(Filled by the Department)*	Academic Year : 2021- 22 Year of Admission : 2020

1. Title of the Project : HUMAN ACTIVITY DETECTION FROM REAL TIME&STORED VIDEO
2. Name of the Guide :Mr.VASUDEVAN.T.V
3. Student Details (in BLOCK LETTERS)

Name	Register Number	Signature
SNEHA.K	MES20MCA-2050	

Date: 16/04/2022

Approval Status : Approved / Not Approved

Signature of Committee Members

Comments of the Guide Dated Signature

Initial Submission :

First Review :

Second Review :

Comments of the Project Coordinator Dated Signature

Initial Submission:

First Review

Second Review

Final Comments :

Dated Signature of HOD

HUMAN ACTIVITY DETECTION FROM REAL TIME&STORED VIDEO

SNEHA.K

Introduction:

Human activity recognition, or HAR for short, is a broad field of study concerned with identifying the specific movement or action of a person based on sensor data. Movements are often typical activities performed indoors, such as walking, talking, standing, and sitting.The goal of human activity recognition is to examine activities from video sequences . Motivated by this fact, human activity recognition systems aim to correctly classify input data into its underlying activity category.
By applying image processing and machine learning techniques, relevant features are extracted from videos and are subsequently used to model and recognise human actions. Human action recognition based on video is a challenging task. Firstly, a very large amount of video data needs to be processed. Secondly, it must deal with many actions.

Objectives:

In this project, I will create a vision-based human action recognition project to recognise a small number of pre-defined human actions based on existing techniques and datasets.
My main objectives are the following:
1. Identify feature extraction techniques for image representation from videos, and suitable machine learning techniques for action recognition.
2. Apply the appropriate techniques to a simple dataset to develop the first version of the project.
3. Implement a graphical user interface.
4. Create a live demonstration system that will be able to take a video clip via a webcam regarding a pre-defined action, and recognise it in near real-time by reporting result via a graphical user interface.
5.Also identify the actions by giving already existing videos.
6.Identifying actions of multiple human being at a time from the video.

Problem Definition:

Following are the steps to perform the activity recognition in conjunction with the compression:
Step 1: An video is given as an input and also taken from real time camera
Step 2:Detection of activity using machine learning algorithms like openpose,CNN

Basic functionalities:

The system is divided into 2 phases: training and testing.
Divide the dataset into training and validation sets. Validation set contained 20% of the images which were randomly chosen from the dataset. After the training phase, the model is tested on computer systems. The model outputs the current activity present in the video in text method.

Tools / Platform, Hardware and Software Requirements:

Hardware Requirements:
Processor: i3
Hard Disk: 500 GB
RAM: 4 GB
Camera: Laptop camera(HD)

Software Requirements:
Language: Python
Front End: Python
Back end: SQlite
Dataset: human action dataset
Algorithm: OpenCv,CNN,LSTM
IDE: Visual Studio Code
OS: Windows/Linux