AGE DETECTION THROUGH IMAGE PROCESSING

-DONE BY

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ABSTRACT:

Age detection is the process of automatically discerning the age of a person solely from a photo of their face. This involves two stages, importing the images and then age recognition by mapping pixel images to its corresponding age and giving it as a feed to age detector algorithm.

We use FGNET dataset for detecting the age. At last, building the ResNet-34 Convolutional neural network model which is used to denote the variant that can work with 34 neural network layers and finding out the train and test accuracy.

SCOPE:

The main scope of the project is to detect the age of the person and to build a robust age detection model by using ResNeT-34 (short form for Residual Network) convolutional neural network model and then use it to find the training and testing accuracy. This detection work will use images feed as input to get live results.

FEATURE REQUIREMENTS:

So, the requirements are:

- **ResNet 34 (Residual Network):**

Resnet34 is a 34-layer convolutional neural network that can be utilized as a state-of-the-art image classification model. This is a model that has been pre-trained on the ImageNet dataset--a dataset that has 100,000+ images across 200 different classes.

- **DATASET INFORMATION:**

The FG-NET aging database was released in 2004 in an attempt to support research activities related to facial aging. Since then, a number of researchers used the database for carrying out research in various disciplines related to facial aging. The FG-NET-AD contains 1002 images from 82 different subjects with ages ranging between new-borns to 69 years old subjects. However, ages between zero to 40 years are the most populated in the database.

- **TENSORFLOW:**

TensorFlow is a free and open-source software library for machine learning and artificial intelligence. It can be used across a range of tasks but has a particular focus on training and inference of deep neural networks

➢ GPU:

GPU (Graphical Processing Unit)- It is a specialized electronic circuit designed to render 2D and 3D graphics together with a CPU. GPU is also known as Graphics Card in the Gaming culture.
Now GPUs are being harnessed more broadly to accelerate computational workloads in areas such as financial modelling, cutting-edge scientific research, deep learning, analytics, etc. GPU can handle tens of thousands of operations per cycle.

➢ GOOGLE COLAB:

Colaboratory, or “Colab” for short, is a product from Google Research.
Colab allows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education.

FLOW DIAGRAM