**PAPER DETAILS**

**Paper Title :** A Transfer Learning Approach for Face Recognition using Average Pooling and MobileNetV2 .

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**WHY THEY HAVE CONDUCTED THIS RESEARCH?**

In this research the authors try to detect the face of different people’s face by using various machine learning algorithm. Now a day the face detection become a very popular way to find out a person by his irish, face cutting and shape of face. Face detecting now using very much. Especially when a criminal do any crime in public place then by using face detecting we can recognize him/her very easily.

Face recognition technology aids in crime prevention by storing the captured image in a database, which can then be used in various ways, including identifying a person.

So here the research will help the government or any defense for detecting face by using machine learning of any criminal’s face.

**PROPOSED SYSTEM**

Human face can be a very strong evidence or suspect for any scenery. Face reorganization is a biometric

Technology that is now using very much. Here in this research the authors make it pretty easy,

In this project the authors of this research have used mainly two neural network algorithm for detecting human face. Between that two neural network algorithm one is Average pooling and another is MobileNetV2. After preprocessing the data they have used these two algorithms to classification data.

**ARCHITECTURE/METHODOLOGY**

First he authors of this research collected data from kaggle, which is the world’s largest data science

Community with powerful tools and research to help you achieve our data science goals. The data set

Almost about over 13000 different picture. Each image is appropriately labeled with the person's name.

CNN performs better with a large volume of data. And the authors of this research allowed zooming,

sharing, and scaling using ImageDataGenerator function.

They converted the every picture into 256 X 256 pixels. Here the ImageDataGenerator function worked to

Decrease the size of picture. And after that they apply Keras for better training.

Here they followed mainly two criteria to create the image. One is Average pooling and MobileNetV2.

Average pooling for resizing the image . They resize here the images twice. And the MobileNetV2 for

Building on an inverted residual structure.

**RESULT**

As we all are known the result of a research is the main and important part of a research. Because we

Judge a paper by it’s outcome result. For better outcome the better data preprocessing is important.

Here the author apply two algorithm and they got two different number of accuracy for individual

algorithm. By applying Average pooling at first the score was when the epoch was 1 then the training loss

was 47.34% ,training accuracy was 81.93%,Validation loss was 19.47% and the Validation accuracy was

86.87% . When epoch increased step by step then it started to increase the accuracy score. Lastly when the

epoch increased 10 then the training loss was least percentage. The percentage was 6.94% and the training

accuracy was 93.13%,validation loss was 6.89% and the validation score increased to 93.65%.

But when they apply MobileNetV2 then the accuracy increased most. The percentage of training accuracy

was 98.92% and validation accuracy was 99.54%. So here we can see the MobileNetV2 worked better .