**PAPER DETAILS**

**Paper Title :** Face Mask Detection using Convolutional Neural Network (CNN) to reduce the spread of Covid-19.

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**WHY THEY HAVE CONDUCTED THIS RESEARCH?**

The authors of this research took a very great step to research something. In this paper the authors of this

Research try to find out the people who are in public place are wear mask or not. We all know that some

Years ago a time was when people can’t think got out from home without mask. Because when the whole

World was spreading by novel corona virus. Get out of home without mask was so risky for us. In spite of

that may people ignored it to wear mask properly. Here the authors were researching on this that how to

detect by capturing a person’s face that he/she is with mask on his face or not.

If I say it one sentence The main objective of the paper [23] is to detect a person without a face mask and

informing the authority to reduce the spread of COVID-19.

**PROPOSED SYSTEM**

In this research the authors proposed a system a to find people are with mask on his face or not. They have

done data preprocessing after collecting data set. Then they try to apply here different machine

learning and deep learning algorithm here to reach to expected result . They tried CNN, NN.

And they applied the algorithm that are Max pooling, Average pooling, And MobileNetV2.

**ARCHITECTURE/METHODOLOGY**

Though this research is fining people’s face with mask and without mask ,so this totally based on the

Convolutional Neural Network (CNN). First they collect data and aftr preprocessing the data they apply

CNN. A CNN is a Deep Learning algorithm that would take an image as input, assign meaning to different

parts of the image, and differentiate between them.

Because of their high precision, CNN are used for image detection and identification. In this paper the

authors of this paper also applied three deep learning method to face detection. Max pooling for detect

the face. The Average pooling and MobileNetV2 for detect the mask. They used Keras’ Image Data

Genarator method to resize the images. They resize the images three times. At first they resize these to

256 X 256. Then 128 X128. And finally they resize these images to 64 X 64.

**EXPERIMENTED OUTCOME**

Outcome of a research paper or result of a research paper is the main and very important part of a research paper.

Because we judge a paper by it’s outcome result. Actually they used here two dataset for detect masks from image .

First when the epoch was 1 then the training loss, training accuracy, validation loss and the validation accuracy was

42.13%, 89.76%, 12.32% and 90.73%. But when epoch increased then the result of training loss, training

accuracy, validation loss and the validation accuracy increased with it. When the epoch was 10 then the training loss,

training accuracy, validation loss and the validation accuracy was 6.56%, 95.65%, 6.01% and 97.71% . And at last

when the epoch was 13 then it showed the highest performance then the training loss, training accuracy, validation

loss and the validation accuracy was 5.05%, 96.49%, 4.12% and 98.67%.

But at the same stage when they apply Average pooling and the epoch was 13 then the training loss,

training accuracy, validation loss and the validation accuracy was 5.92%, 95.19%, 5.12% and 96.23%.

And with the MobileNetV2 at the same stage the training loss, training accuracy, validation loss and the validation

accuracy was 3.42%, 99.72%, 3.18% and 99.82%.

So we can say that here the MobileNetV2 showed best performance.