FACE MASK DETECTION SYSTEM

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1. Introduction

The face mask detection system is designed to detect whether person has wear mask or not which can be used in the public places to restrict people from entering without wearing mask.

2 General Description

2.1 Problem Statement

The impact of coronavirus pandemic on India has been largely disruptive in terms of economic activity as well as a loss of human lives. Almost all the sectors have been adversely affected as domestic demand and exports sharply plummeted with some notable exceptions where high growth was observed.

Now few medicines as well as vaccines are invented to cure coronavirus. But again it doesn't 100% cure the disease. Hence, WHO as well as Indian Govt. is also enforcing to wear mask regularly. But people are not following the instructions even if these restrictions and instructions are for betterment of whole community.

2.2 Proposed Solution

The solution for the above problem statement can be to use face mask detection through cameras and pick up the people who are not wearing masks.

For e.g.:

While entering into the mall there are automatics doors which open by sensing the footsteps of the people. In that system one can implement this system of face mask detection so that if person is wearing mask then only the door will get opened otherwise it won't.

Such applications can be the solution for the above problem statement.

2.4 Tools used

Tools used in this project are:

I. Python
II. TensorFlow
III. Keras
IV. Spyder
V. Numpy
VI. Open-cv
VII. GitHub

2.5 Constraints and Current Challenges:

Some of the current challenges in wearing mask awareness are:

1. People aren't serious about wearing mask:
   Though everyone is aware of the pandemic there are some people who don't follow the rules and regulations imposed by government to stop the spread of the corona virus. They don't wear masks and even spreading misconceptions in the markets.

2. Not possible to monitor every place:

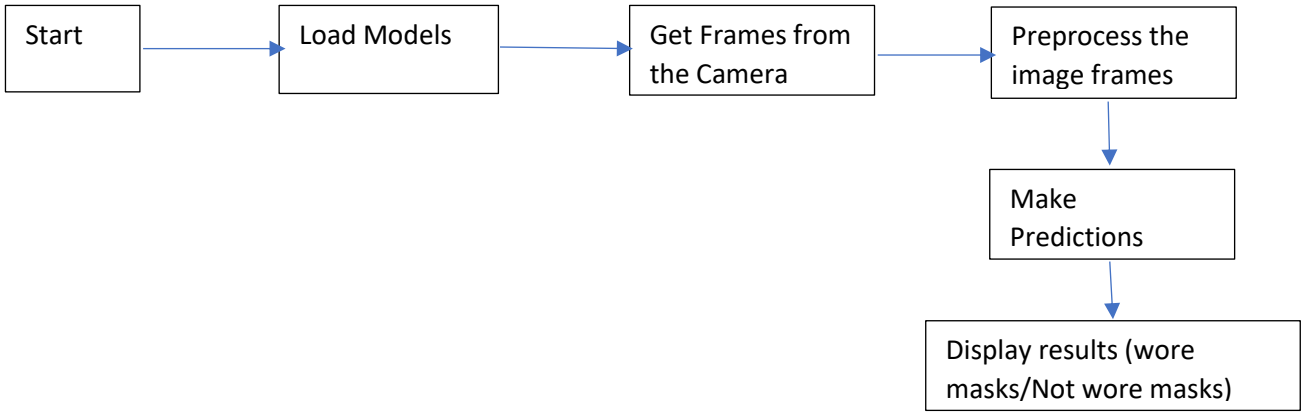
   It is almost impossible to keep eye on people in every public place like malls gardens like places personally. There is a lack of resources to make the restriction happen at 100% level.

3 Design Details

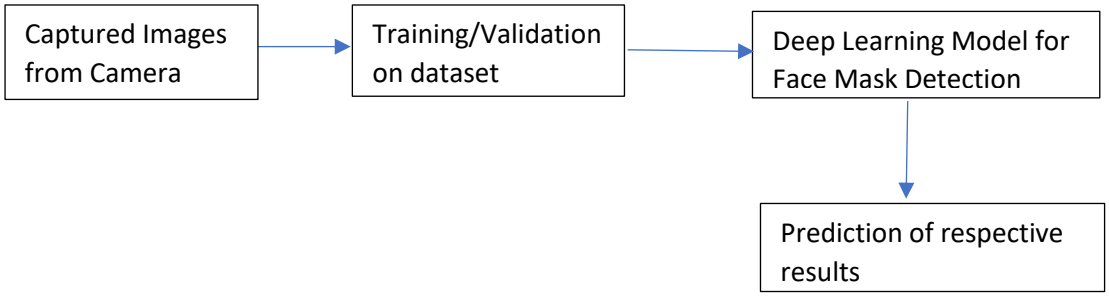
3.1 HLD

Let's take a look into the high-level understanding of the steps of how Face Mask Detection System will work:

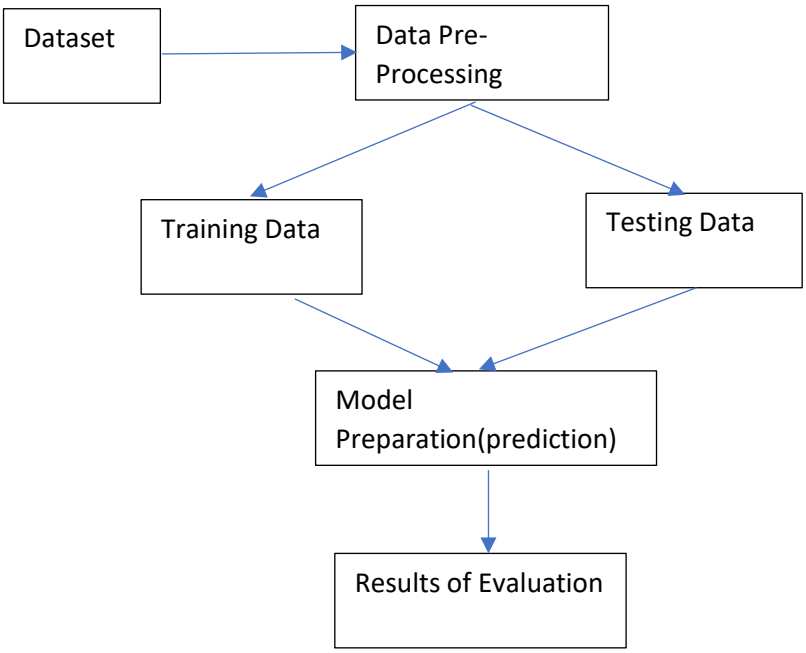
Deployment Process:



Proposed Methodology:

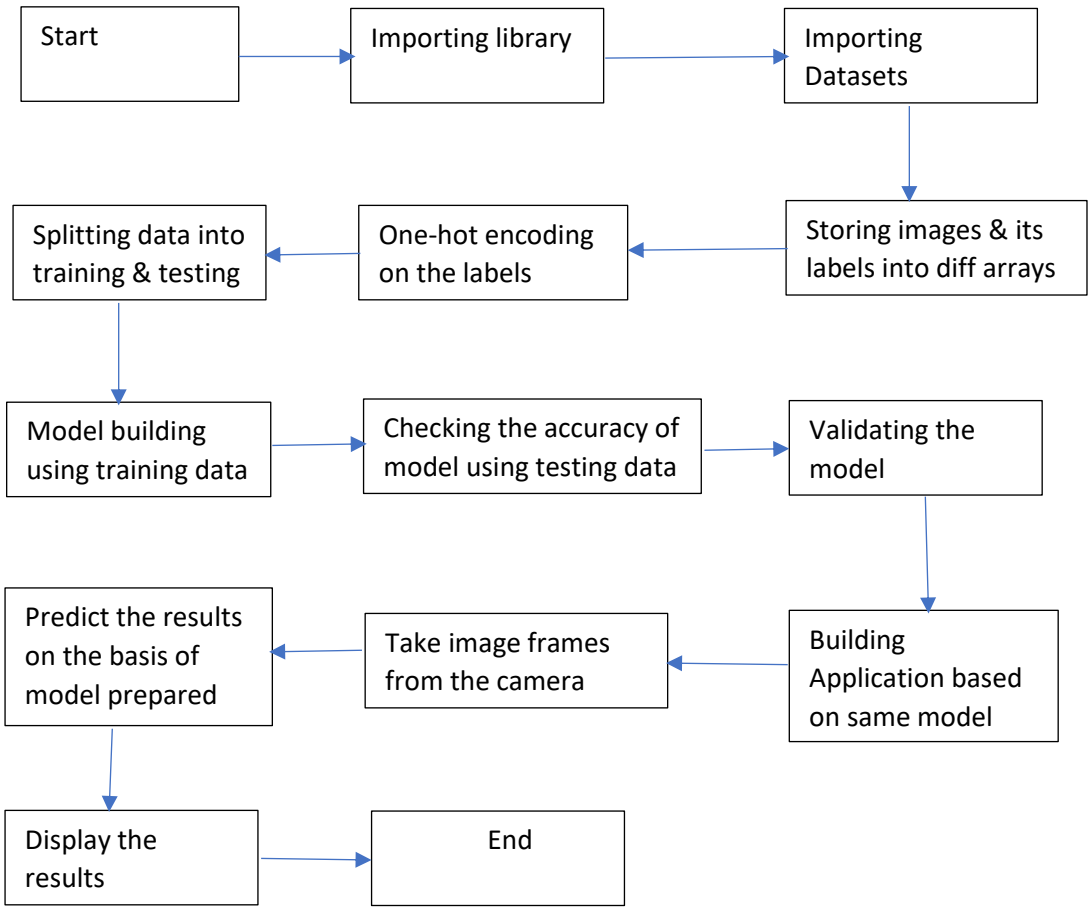


Model Training & Evaluation



3.2 LLD

Let's take a look into the low-level understanding of the steps of how Face Mask Detection System will work:



4 Conclusions

The use of Face Mask Detection System will help to impose rules and regulations strictly on the people and help to stop the spread of the COVID-19 virus. The implementation is not that simple but given a some amount of special efforts it can be possible to start implementing this system and try to reduce manual efforts and will work equally for every personal and their will be no biasness also.