MASK DETECTOR

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DEEP LEARNING APPROCH

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Gist About the Project: The world is fighting with Covid19 pandemic. There are so many essential equipments needed to fight against Corona virus. One of such most essential is Face Mask. Firstly face mask was not mandatory but as the day progresses scientist and Doctors have recommended everyone to wear face mask. Now to detect whether a person is wearing Face Mask or not, we can use Face Mask Detection Technique. Face Mask Detection technique we can detect f a person does/doesn't wear a mask. The application can be associated with any current or new IP cameras to identify individuals with/without a mask. In this blog we will see many important aspect of face mask detection not only for Covid19 cases but also for other regular cases.

I've created a project using technologies like **Machine Learning and DevOps approach**, Titled as **"Mask Detector"**. As it's very difficult to every time sit in front of computer screen and indentify that a person is with or without mask. This project can help as it can automatically detect the person is without mask. Also it can be used with an alarm system.

Technologies Used: I've used **Deep Learning** approch to train the CNN model. Also **Haar cascade** to detect the face in

Technologies Used- Machine learning concepts:

➢ **Deep Learning:-** It helps to predict my model with good accuracy.
➢ **CNN(Convolutional Neural Networks):- It is used during training of models and helps to increase the accuracy of models.**

Training of model:

➢ **Supervisely:-** It helps in annotations for my dataset and also increasing my Dataset.
➢ **AWS(Amazon Web Services):-** In this I launch the Deep Learning AMI instance for training my model.

Also, I've created a **Docker environment** using the concept of **containerization** we can create a separate environment where we train our machine learning model. So that we don't face any dependencies issue. I've also used **Jenkins for CI/CD** as it pulls the ML code and data from **GitHub** and does the further **automatic process**.

Conclusion: The whole process is when the developer pushes the ML model with the dataset to **GitHub, Jenkin**s being a **CI/CD tool pulls** the code automatically as soon as it senses the code has been uploaded to some **Source Control Management System** and perform the task i.e building **Docker images** and run our **ML code** in a docker environment.

Future Scope: The future scope of this project as it can be installed with CCTV cameras also with Web-camera, there will be no need for a person to watch the people all the time. It can be used with an alarm system as it can alarm if someone is detected without mask.