



LinuxWorld Informatics Pvt. Ltd.

CIN: U72900RJ2012PTC039171

Ref : LWIPL-JPR-2020-1123

Date: 29th Apr, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the project work and report entitled “ **MLOps Training - Applying Machine Learning On DevOps** ” embodies the original work of **Mr. Deepak K** from **Sapthagiri College of Engineering** (B.E – Information Science) at **LinuxWorld Informatics Pvt Ltd**

The duration of the project undergone as mentioned above, under the mentorship of **Mr. Vimal Daga, Technical Head** was from **28th Mar, 2021 to 28th April, 2021**.

Project Description: India has been fighting the pandemic with great spirit, with unlocking phases being in motion. It is quite difficult to monitor **social distancing in public places**, especially in countries with a large population. There is no way to completely ensure that the **masses wear their masks properly** at times when they go out in public.

Even if a single business or workplace ignores these norms, the situation might get back to where it started. The need to be proactive now is more than ever, Governments all around the world recognized the power of **AI** and **ML** in order to fight the pandemic. Since wearing a mask and avoiding crowded places is the only alternative until the vaccine is introduced, Computer vision in the form of mask detection can be a reviving factor to get life back to normal. Mask Detection models ensuring the efficient use of masks at workplaces and public areas. Real-time mask detection can solve the monitoring issues in countries with large populations.

Technologies Used: OpenCV is the huge open-source library for computer vision, machine learning, and image processing. It is used to capture the image and use them for training model, used for detection. It is also used to capture real-time video capture for project. **Tensorflow/Keras** loading our face mask detection dataset from disk and training a model to create the CNN that classifies the images as with or without a mask. **Streamlit** used for providing a web interface where users can upload a image and results.



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Technologies Used- Machine learning concepts:

- **Deep Learning:-** It helps to predict my model with good accuracy.
- **R-CNN:-** It is used for object detection in my model.
- **CNN(Convolutional Neural Networks):-** It is used during training of models and helps to increase the accuracy of models.
- **Used the weight and Bias of pre trained model MobileNet.**

Training of model:

- **Google Coolab:** used the GPUs provided by Coolab for training our Model.

Also, he has 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: **COVID-19** is the greatest humanitarian challenge facing the world ever since World War II. With over **45,000** fresh cases, the COVID-19 in India rose to **90** lakhs with **1,32,162** fatalities. Without expecting such an issue, we needed to face **100** million people losing their jobs in India. **Global lockdown** and **quarantine** took a toll on mental health. In order to revive the economies, the businesses and workplaces must open the proper functioning.

Also with the help of a web-server, it provides a URL from which we can access the webpage. For this complete pipeline, an admin will be up-to-date where the process is executing and what all processes it has completed by sending admin an email automatically.

Future Scope: Yes, it has a future scope as we can deploy it on a **Mobile App** which would be much easier to manage

Regards

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