LinuxWorld Informatics Pvt. Ltd.

CIN: U72900RJ2012PTC039171

Ref : LWIPL-JPR-2020-2068   **Date**:28th Aug, 2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the project work and report entitled **"The Future of Automation - DevOps Assembly Lines "** embodies the original work of **Mr. Vedant Shrivastava** from **Kalinga Institute of Industrial Technology** (B.Tech – Computer Science and Communication Engineering) 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 **27th April, 2020 to 30th June, 2020.**

Project Description: The project Named **"Covid PDS Plus - Cure the Chaos".** "A prototype build of an e-PDS and healthcare application created using an end-to-end complete technologically enabled platform to connect the stakeholders i.e. People, Government, NGOs, which works in real-time, such that social distancing and other measures are kept in check.

The integration and implementation of the source code by the developer with the necessary requirements of society is essential. It is done by the Operations Manager, with use of Docker/Kubernetes for container deployment of the website, and Jenkins for system based automation i.e CI/CD.

Therefore it is an end-to-end completely automated CI/CD enabled Web Platform aimed at the pandemic restoration made using almost all DevOps Tools such as Jenkins, AWS, Git & GitHub, Shell & Python scripting, AWS, GCP, Docker, Dockerfiles, Kubernetes, Nginx, EKS etc.

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Technologies Used:

- The integration and implementation of the source code by the developer with the necessary requirements of society is essential. It is done by the Operations Manager, with use of Docker/Kubernetes for container deployment of the website, and Jenkins for system based automation i.e CI/CD. Fig. 4 therefore represents the integration of the ML Models with the Web Architecture.

- An individual's annual income results from various factors. Intuitively, it is influenced by the individual's education level, age, gender, occupation, and etc

- It is essential that the income take into consideration all factors to necessitate the use of the code to as a Classification Model.

- The first model used calculates the cost of sheltering, while the second model calculates required area as well as costs of housing the population (registered to the website/application).

- Several Classifier models are used to segregate and predict the people of one economic/financial class to the other, to avoid discriminatory treatment towards them as same with respect to their economic background.

- The most important step used is the use of Deep Learning concepts and Open Computer Vision for purposes of verification. An audio file and age classifiers are used to avoid wrongful addition of data, which can corrupt the database in terms of information gain.

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- The deep learning models implemented can also be used to train or educate the people in these testing times. ASHA (Accredited Social Health Activist) workers also can be trained by using the various models, for example handwashing, hygiene, cleanliness etc.
- Made use of Pytorch/Tensorflow-Keras deep learning libraries to enhance the linear models using Gradient Descent and Back-propagation. Further we have used the opencv (i.e"cv2") DNN (Deep Neural network) models, for purposes of verifying against pranks while entering data. For example, the youth of today can play a prank to enter their age as over 80, for both monetary and/or social benefit, but the audio sound (which classifies people above or below the age of 35) segregates them. Further the GAN (Generative Adversarial Network) age determination model will further bring the number to a closer value.

Target Market

- ❖ **The Poor &Middle Class:** The Daily Wage Workers are the most affected due to the lock-down situation. We are taking the opportunity of providing them food at low cost considering their economic condition.
- ❖ **The Homeless:** These people have high chances of getting contaminated due to their surrounding hygiene. We are therefore encouraging citizens to report such cases in our Application. This information is shared with the Local Authorities/NGOs, to provide them with residence.

Conclusion: This project has an aim to provide an easy, effective and complete technology enabled way for the public distribution of food, finding homes for the homeless, providing At-Home treatment to the ones affected by the pandemic, as well as monitoring the Covid spreadkeeping in mind the concept of Social Distancing..
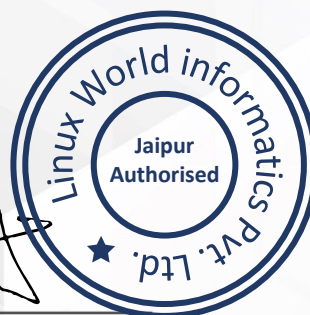
We wish him all the success for his future

Regards

LinuxWorld Informatics Pvt Ltd

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