BHASKARACHARYA NATIONAL INSTITUTE FOR SPACE APPLICATIONS AND GEO-INFORMATICS

WEEKLY PROGRESS REPORT (13/03/2023 – 19/03/2023)

WEEK 8

PROJECT NAME	MALWARE DETECTION USING ML

PROJECT DESCRIPTION :	**DESIGN AND IMPLEMENT ML MODEL TO DETECT MALWARE IN SYSTEM**
GROUP MEMBER :	**PRATHAM PATEL, Shubham Patel, Shashank Sharma, Yash Soni**
GROUP ID :	**I2**
GROUP GUIDE :	**HARSH KIRATSATA**
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COLLEGE NAME :	**ADANI INSTITUTE OF INFRASTRUCTURE AND ENGINEERING**

13/03/2023 TILL 19/03/2023 (7 DAYS)

Implementation ML in TensorFlow

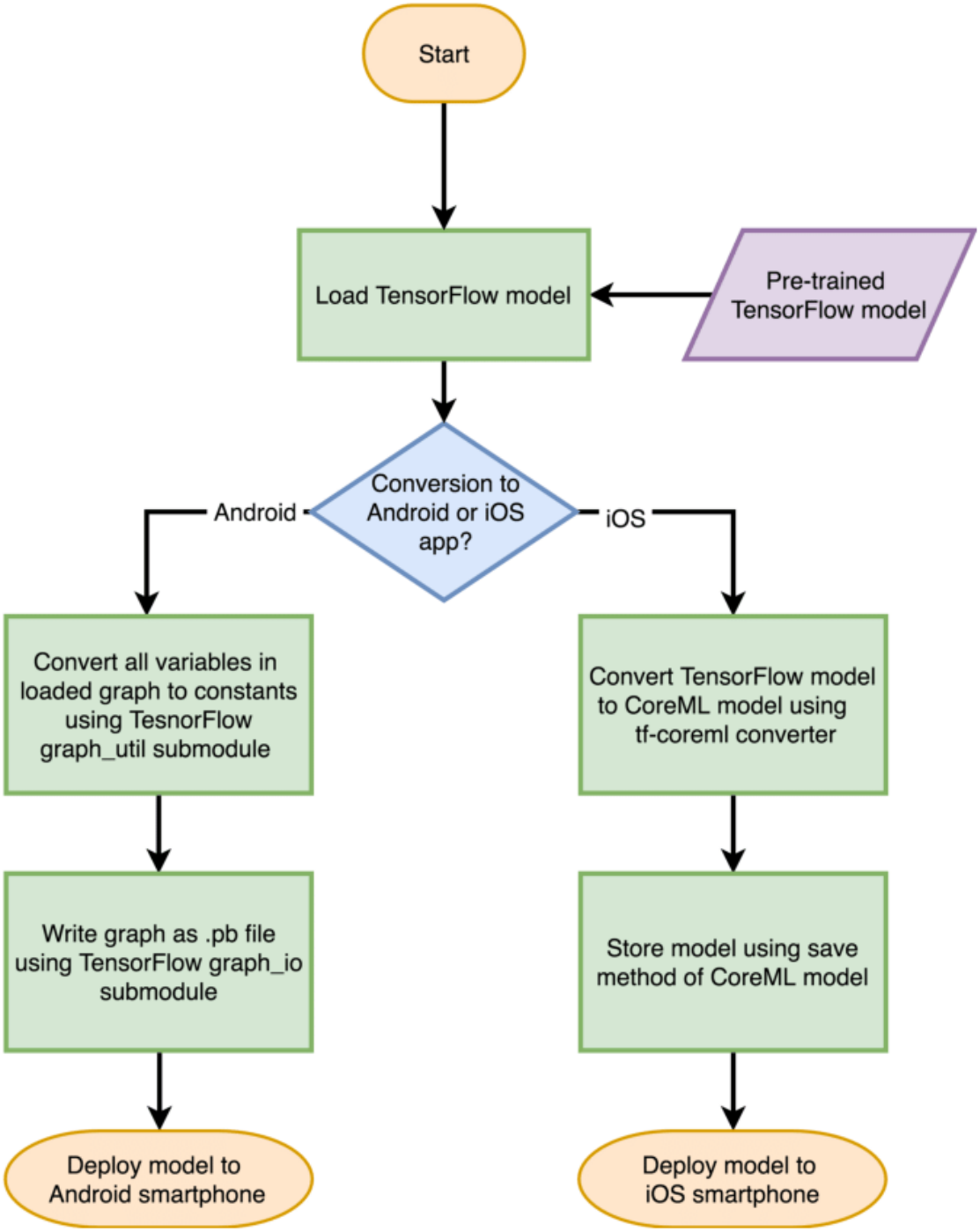
13/03/2023	Understanding basics of TensorFlow.
14/03/2023	Learning how to implement deep learning with TensorFlow.
15/03/2023	Reading about neural networks and its weights.
16/03/2023	Preprocessing the data for Deep learning.
17/03/2023	Creating the format for confusion matrix and splitting data for train and test
18/03/2023	Coding the function for plot metric per epochs
19/03/2023	Holiday (Sunday)

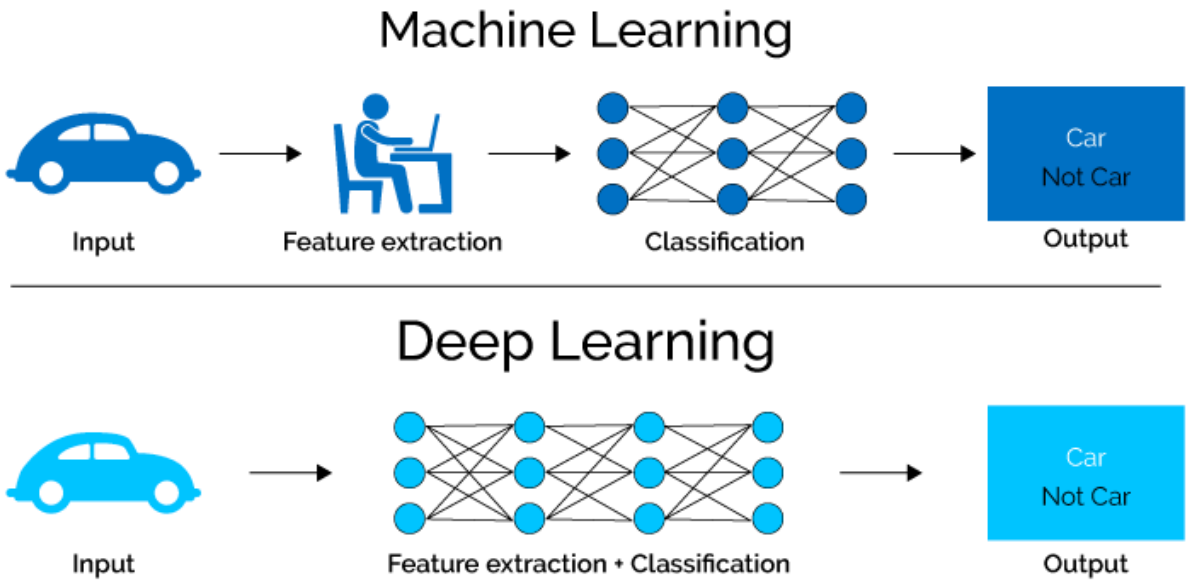
WEEK 9(PLAN)	Creating layer function, Placeholders, graphs, Architect in coding

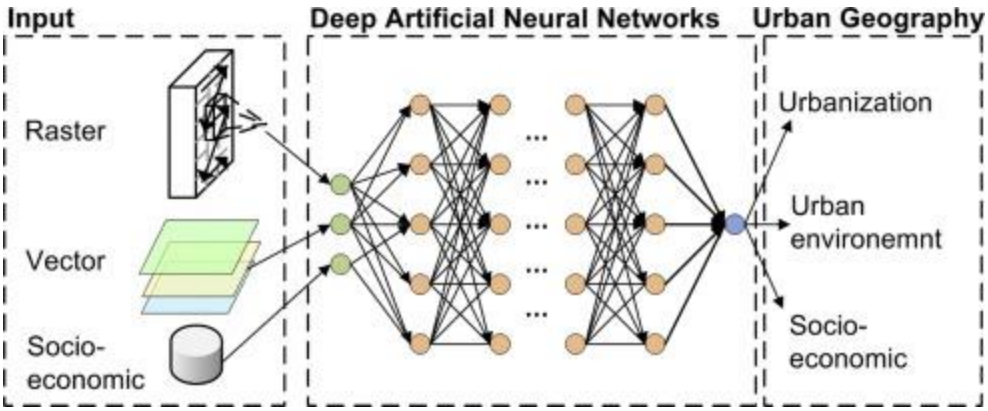
REFERENCE :

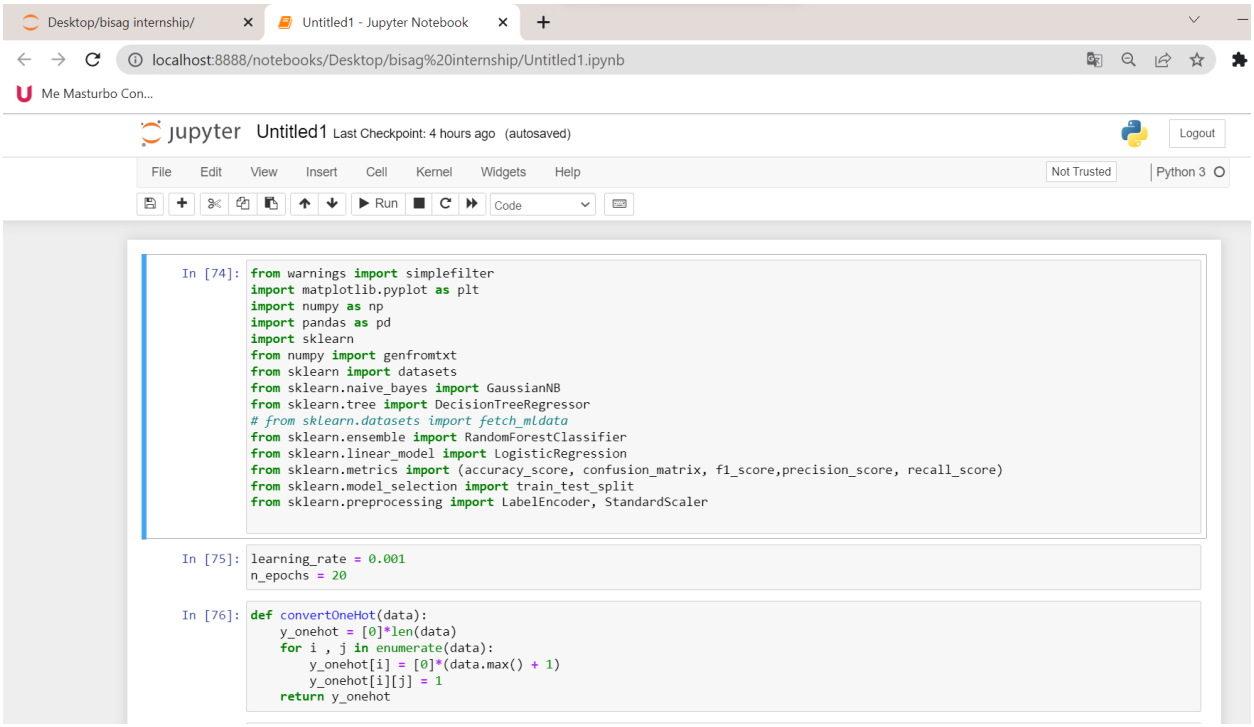
- https://www.researchgate.net/figure/Flowchart-depicting-the-steps-needed-to-convert-a-TensorFlow-model-into-a-smartphone_fig2_330241412
- https://www.google.com/url?sa=i&url=https%3A%2F%2Fsemiengineering.com%2Fdeep-learning-spreads%2F&psig=AOvVaw1YlihnrhtQ3QKW2gfzVDKt&ust=1678960400576000&source=images&cd=vfe&ved=0CAMQjB1qFwoTCliXl4TV3f0CFQAAAAAdAAAAABAE
- https://www.sciencedirect.com/science/article/pii/S0198971518302928

Screenshots :




Machine Learning
Input
Feature extraction
Classification
Car
Not Car
Output
Deep Learning
Input
Feature extraction + Classification
Car
Not Car
Output


Input
Deep Artificial Neural Networks
Urban Geography
Raster
Vector
Socio-
economic
Urbanization
Urban
environemnt
Socio-
economic




```
In [77]: feature = genfromtxt('log_file_features.csv', delimiter=',', \
                    usecols=(i for i in range(1, 1001)), dtype=int, \
                      skip_header=1)

target =genfromtxt('log_file_features.csv',delimiter=',', usecols = (0),\
                   dtype = int ,skip_header=1)
sc = StandardScaler()
sc.fit(feature)
feature_normalized = sc.transform(feature)
```

```
In [78]: target_label = LabelEncoder().fit_transform(target)
target_onehot = convertOneHot(target_label)
```

```
In [79]: x_train, x_test, y_train_onehot, y_test_onehot = train_test_split(feature_normalized, \
                                                    target_onehot, test_size=0.25)
```