



**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 :**

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Sharma, Yash Soni**

**GROUP ID :**

**12**

**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**

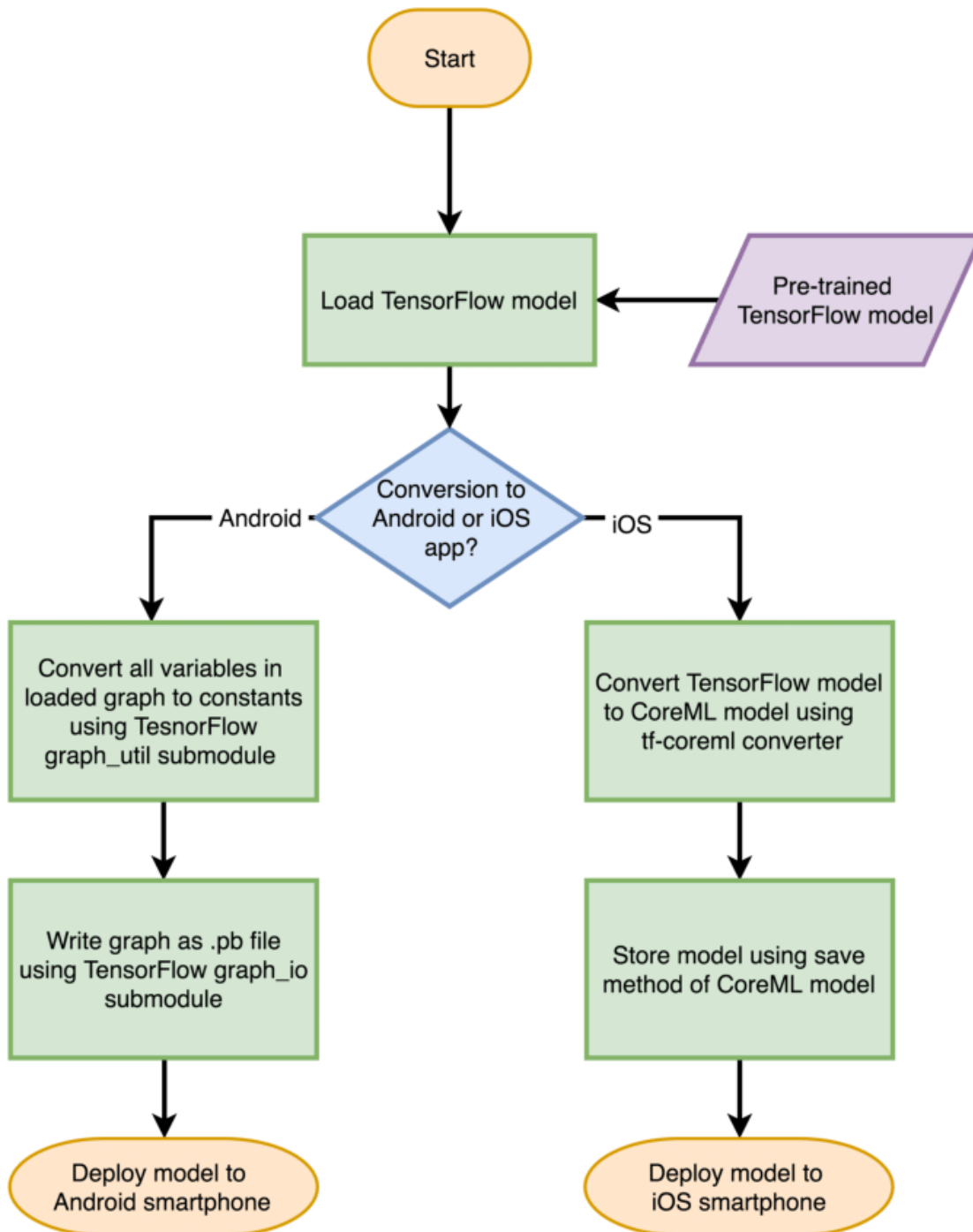
13/03/2023	Understanding basics of TensorFlow.
14/03/2023	Learning how to implement deep learning with TensorFlow.
15/03/2023	Reading about neural networks and its weights.
16/03/2023	Preprocessing the data for Deep learning.
17/03/2023	Creating the format for confusion matrix and splitting data for 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
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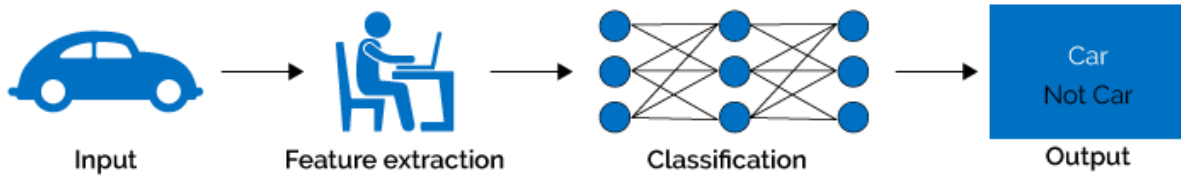
**REFERENCE :**

- [https://www.researchgate.net/figure/Flowchart-depicting-the-steps-needed-to-convert-a-TensorFlow-model-into-a-smartphone\\_fig2\\_330241412](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=AOvVaw1YlihnrtQ3QKW2gfzVDKt&ust=1678960400576000&source=images&cd=vfe&ved=0CAMQjB1qFwoTClIXI4TV3f0CFQAAAAAdAAAAABAE>
- <https://www.sciencedirect.com/science/article/pii/S0198971518302928>

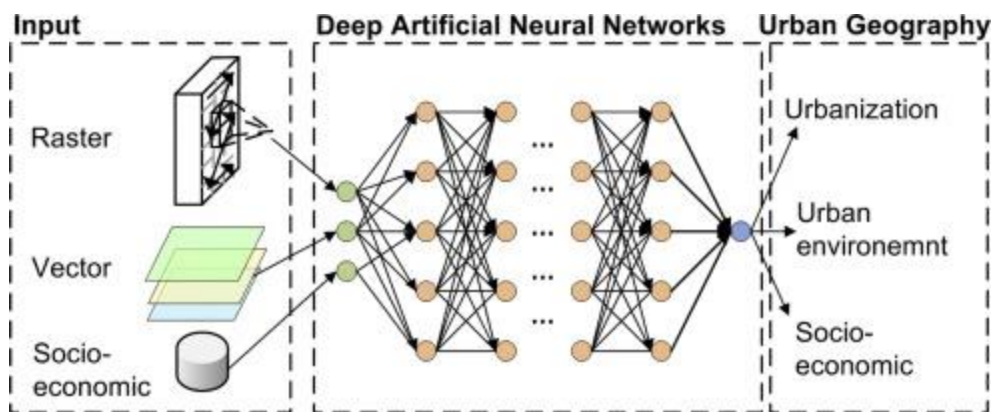
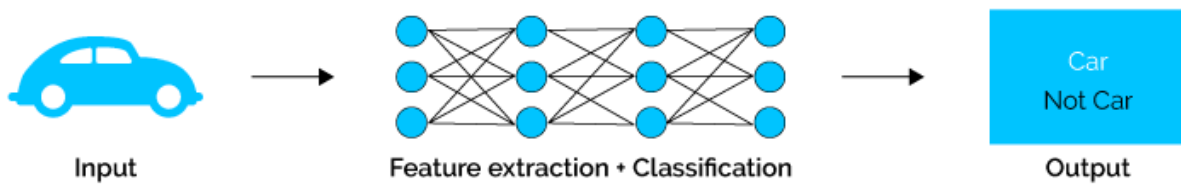
## Screenshots :



## Machine Learning



## Deep Learning



Desktop/bisag internship/ x Untitled1 - Jupyter Notebook x +

localhost:8888/notebooks/Desktop/bisag%20internship/Untitled1.ipynb

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jupyter Untitled1 Last Checkpoint: 4 hours ago (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Not Trusted Python 3

```
In [74]: from warnings import simplefilter
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import sklearn
from numpy import genfromtxt
from sklearn import datasets
from sklearn.naive_bayes import GaussianNB
from sklearn.tree import DecisionTreeRegressor
# from sklearn.datasets import fetch_mldata
from sklearn.ensemble import RandomForestClassifier
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import (accuracy_score, confusion_matrix, f1_score, precision_score, recall_score)
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelEncoder, StandardScaler

In [75]: learning_rate = 0.001
n_epochs = 20

In [76]: def convertOneHot(data):
y_onehot = [0]*len(data)
for i, j in enumerate(data):
y_onehot[i] = [0]*(data.max() + 1)
y_onehot[i][j] = 1
return y_onehot
```

```
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)
```