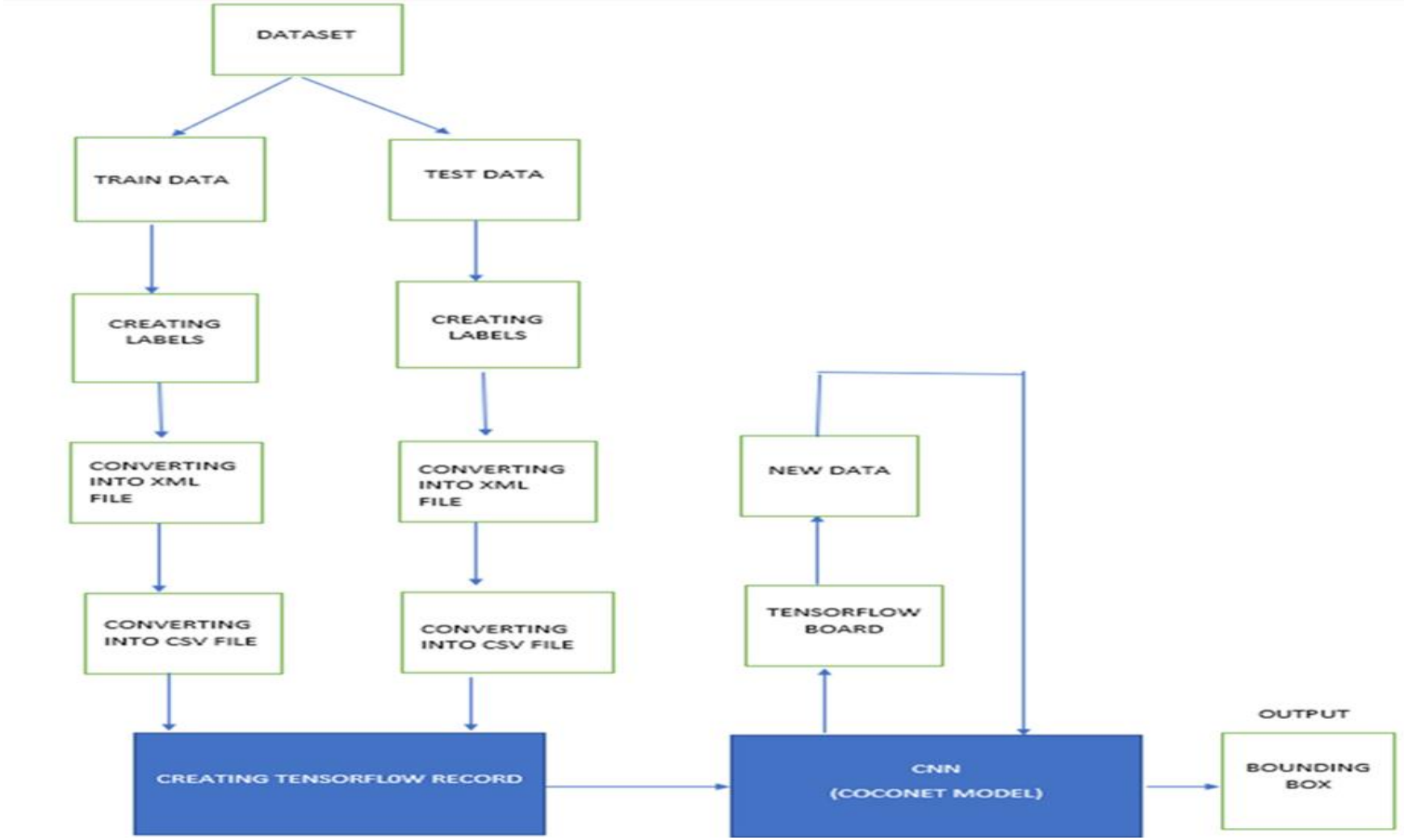
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	22 October 2022
Team ID	PNT2022TMID42101
Project Name	Emerging Methods for Early Detection of Forest Fires
Maximum Marks	4 Marks

Technical Architecture:


DATASET
TRAIN DATA
TEST DATA
CREATING LABELS
CREATING LABELS
CONVERTING INTO XML FILE
CONVERTING INTO XML FILE
CONVERTING INTO CSV FILE
CONVERTING INTO CSV FILE
NEW DATA
TENSORFLOW BOARD
CREATING TENSORFLOW RECORD
CNN (COCONET MODEL)
OUTPUT
BOUNDING BOX

PROBLEM SOLUTION DIAGRAM:

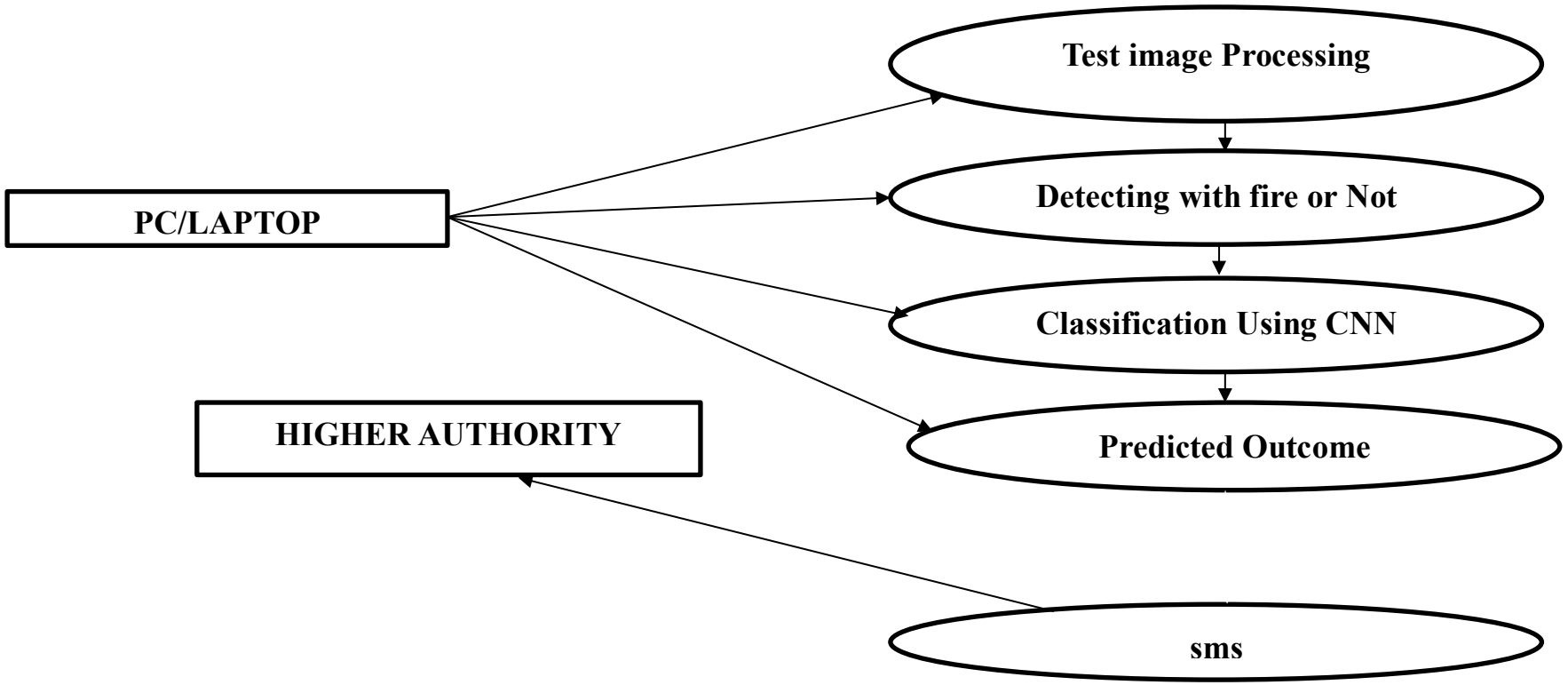


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User interface	This project will be interact with real time camera	Image processing
2.	Application logic	Process logic in this project	python
3.	camera	Data processing	Cctv camera
4.	Database	Train and test data folder	Labelled dataset ,From kaggle
5.	Cloud database	Database service	Ibm
6.	Database system	File storage	Local file system on computer or pc
7.	Deep learning model	Purpose of model	Real time object detection and image processing
8.	Infrastructure	deployment	Local and ibm server

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	We use open source frameworks and library/modules.	Python,tensorflow Keras,keras api opencv
2.	Security Implementations	We use real time camera to detect the fire and send the data.	Twilio sms module,opencv,python
3.	Scalable Architecture	We use image processing technique.	CNN(convolutional nueral network).
4.	Availability	We use this application to everywhere specailly for forest and place like posible to fire.	Cctv camera,image/video processing technique called cnn.
5.	Performance	The cnn algorithm is detect the fire with high accuracy compare to other machine / deep learning algorithm.	CNN(convolutional nueral network),image processing.