

**DERBI – AI-Healthcare Hackathon**

**HASH\_DIRECTORS**

MENTOR:

**SUDIP GUPTA**

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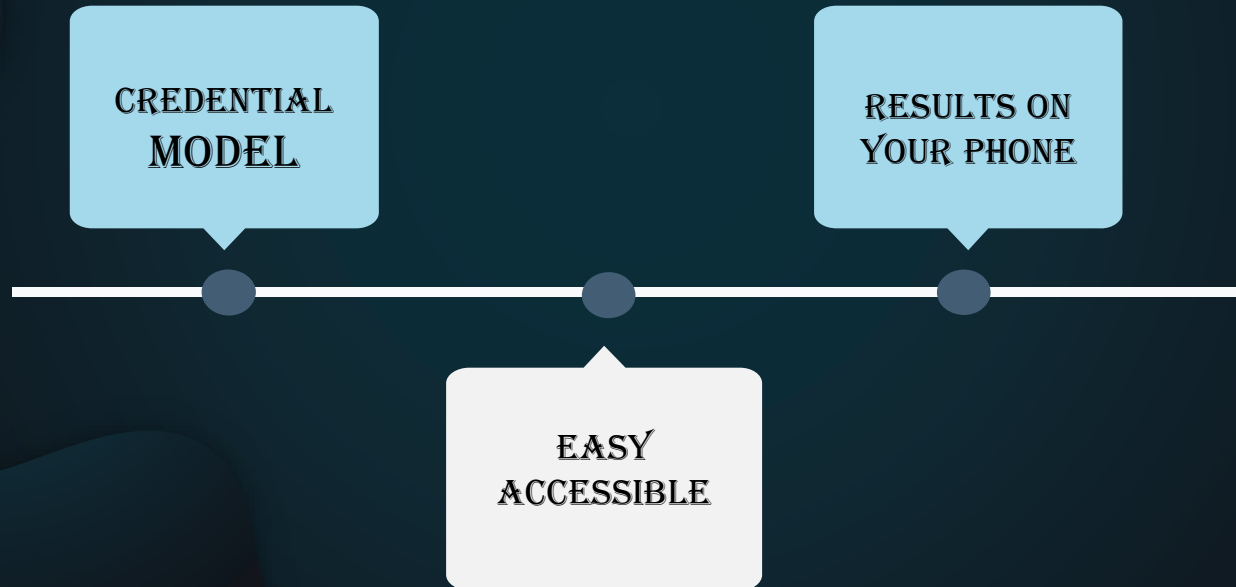
HEMMASRI K

# PROBLEM STATEMENT :

- 01 Multiple Diseases Predicting **deep learning model** using Chest X-Ray/CT-Scan Images.
- 02 **Report** is not in a understandable way by patient's attender.
- 03 Patients's health details are **not privated**.
- 04 **No easy way** to make the process customized.

## SOLUTION AND COMMERCIALIZATION PLAN:

A pre-existing CT-Scanner embedded with the **ML Model** is connected through cloud infrastructure with a **Cross-Platform mobile application**.



# DATASETS USED & DISEASE ADDRESSED:

## PNEUMONIA

<https://www.kaggle.com/pcbreviglieri/pneumonia-xray-images>  
<https://www.kaggle.com/thisisatharva/rsna-pneumonia-dataset-in-jpg-format>  
<https://www.kaggle.com/paultimothymooney/chest-xray-pneumonia>  
<https://www.kaggle.com/khoongweihao/covid19-xray-dataset-train-test-sets>  
<https://www.kaggle.com/amanullahasraf/covid19-pneumonia-normal-chest-xray-pa-dataset>  
<https://www.kaggle.com/tawsifurrahman/covid19-radiography-database>

## TUBERCULOSIS

<https://www.kaggle.com/usmanshams/tbx-11>  
<https://www.kaggle.com/sindalflekke/tb3000>  
<https://www.kaggle.com/tawsifurrahman/tuberculosis-tb-chest-xray-dataset>

## COVID-19

<https://www.kaggle.com/gibi13/pneumonia-covid19-image-dataset>  
<https://www.kaggle.com/amanullahasraf/covid19-pneumonia-normal-chest-xray-pa-dataset>  
<https://www.kaggle.com/donjon00/covid19-detection>  
<https://www.kaggle.com/tawsifurrahman/covid19-radiography-database>  
<https://www.kaggle.com/sid321axn/covid-cxr-image-dataset-research>

## BREAST CANCER

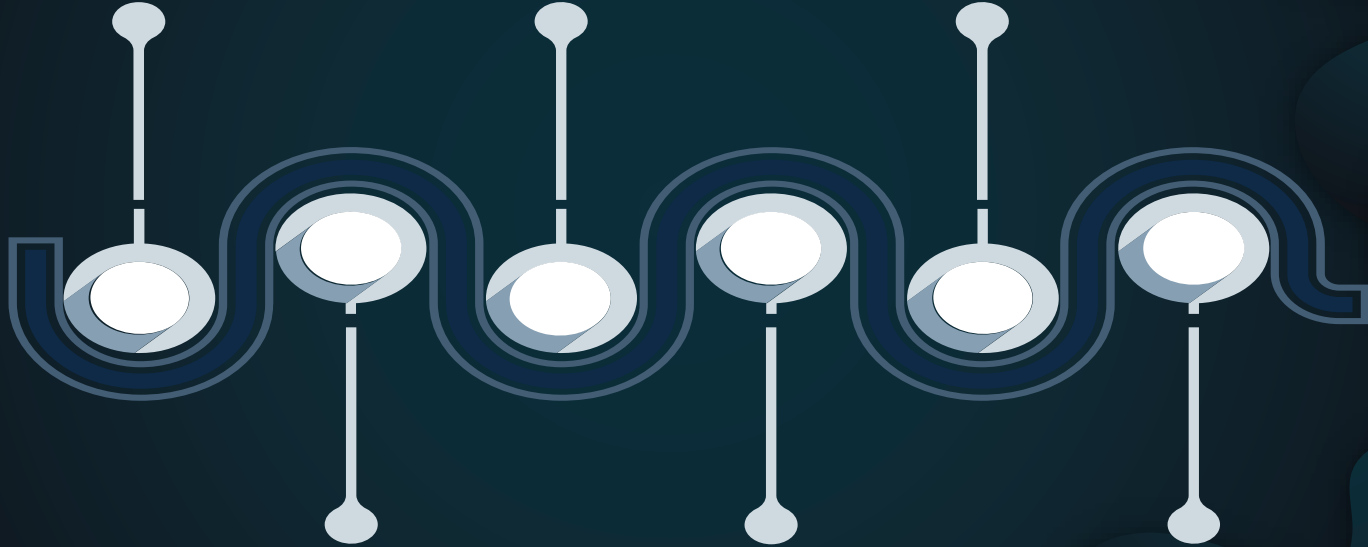
<https://www.kaggle.com/anaselmasry/breast-cancer-dataset>

# MODEL\_PIPELINE :

Data Extraction

Data Augmentation

Model Training



Data Processing

Model Creation

Model Deployment

## RESULT AND EVALUATION VALUE :

01

Pneumonia



Accuracy : 96%  
Loss : 10%

Accuracy : 95%  
Loss : 14%



Covid-19

02

03

Tuberculosis



Accuracy : 93%  
Loss : 15%

Accuracy : 73%  
Loss : 50%



Breast Cancer

04

## ROADMAP FOR 5 YEARS :

Deploying the pretrained model in the embedded system and launching our meta app

Inclusion of many diseases and NLP algorithm in the app for user's convenience

Enabling our program to work with all type of scans line MRI,CT scans etc...



## MONETIZATION :



No. of people checked their health through X-ray's are higher due to pandemic.



10% extra from the cost of the existing CT-Scanner, though we can make our revenue through our application.



120% according to the invested amount.

**THANKS FOR THE  
OPPORTUNITY**

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