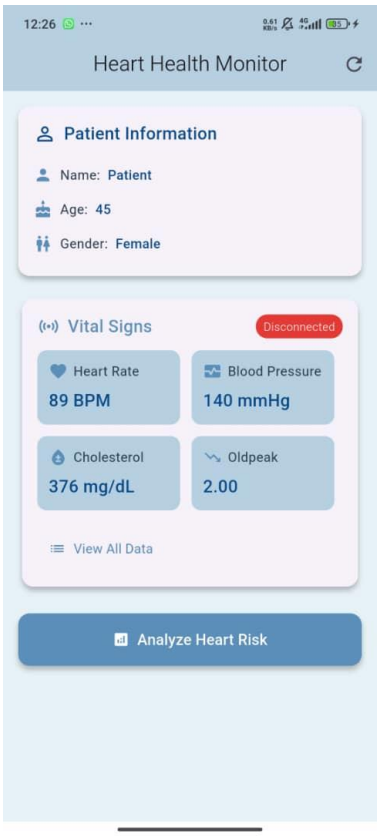
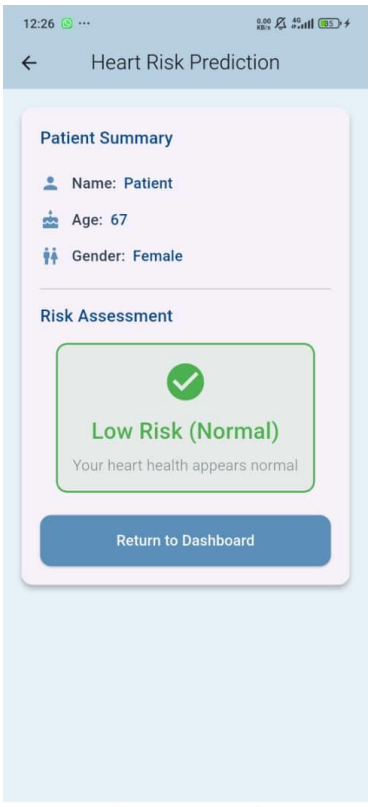
What I did?

- get the Heart Disease model from : https://www.kaggle.com/code/zahidmughal2343/heart-disease-prediction-using-random-forest/input

1- Get .csv file
2- train_model.py and get heart_model.h5
3- TFLiteConverter to get heart_model.tflite
4- Add heart_model.tflite to flutter app in assets
5- pubspec.yaml

6 – I did mock sender to send fake data through mqtt (broker.hivemq.com) to the application then the ML will work inside the app to predict





Xray model: https://www.kaggle.com/datasets/paultimothymooney/chest-xray-pneumonia?resource=download

1- download as zip code (2GB)
2- I UPLOADED to my drive and connect with Google Colab

```
from google.colab import drive
drive.mount('/content/drive')  => /content/drive/My Drive/archive.zip
```

3- Unzip the file
4- Be sure that files inside
5- Convert the path /content/chest_xray_clean/
6- Libraries,paths
7- ImageDataGenerato and resize the images
8- CNN Model
9- Train : history = model.fit(

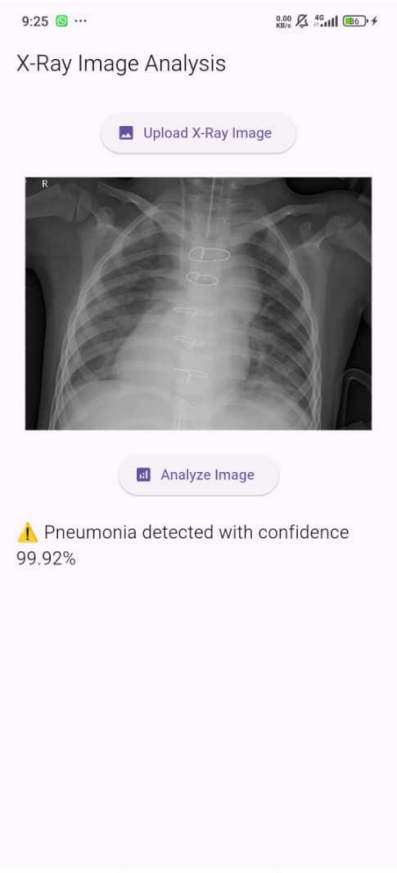
```
                train_generator,
                epochs=10,
                validation_data=val_generator)
```

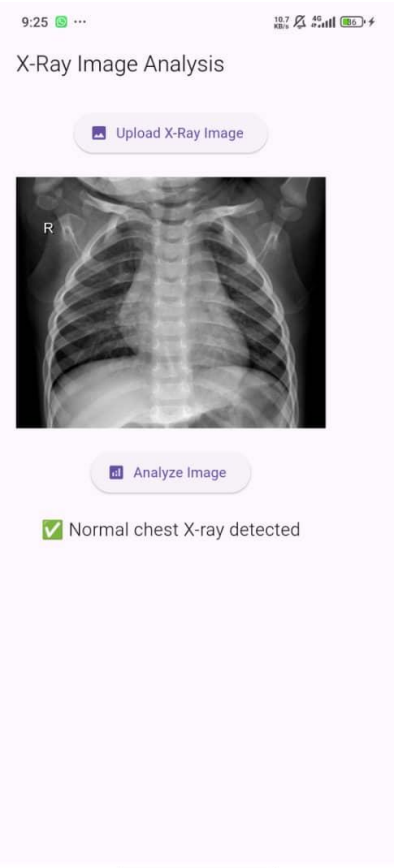
93.6 %

10 – FliteConverter

I did an app through I can upload an X-Ray image and a ML model will run inside the app to predict if there is a Pneumonia or it's normal

I did this just because I want to Work on AWS Rekognition





The sensors that we need to our project:

Sensor Name	Purpose / What it Measures	For Parameter	Example Model(s)
Heart Rate Sensor	Measures heart beats per minute	thalach	Pulse Sensor, MAX30100, MAX30102
Blood Pressure Sensor	Measures systolic and diastolic blood pressure	trestbps	Digital BP monitors (Bluetooth/USB interfaces)
ECG Sensor	Measures electrical activity of the heart (ECG)	restecg, oldpeak, slope	AD8232

My idea is to search about them in the lab
If we couldn't find them we can put the values **random**
manually input:

- age
- sex
- cp (chest pain type)
- exang (exercise-induced angina)

Also these parapmeters because we Cannot be measured without laboratory blood tests:

- **chol** (serum cholesterol)
- **fbs** (fasting blood sugar)
- **ca** (number of major vessels colored by fluoroscopy) *medical imaging (fluoroscopy)*
- **thal** (thalassemia type)

From sensors :

- trestbps (resting blood pressure) — from Blood Pressure Sensor
- restecg (resting ECG results) — from ECG device
- thalach (max heart rate achieved) — from Heart Rate Sensor during exercise test
- oldpeak (ST depression induced by exercise) — from ECG device
- slope (slope of ST segment) — from ECG device

LAST UPDATE: SEND BY WHATSAPP