

CAIRO UNIVERSITY

# AI PROGRAM

## ADVISORY SYSTEM FOR EARLY HEART DIAGNOSES

### (BAYMAX)

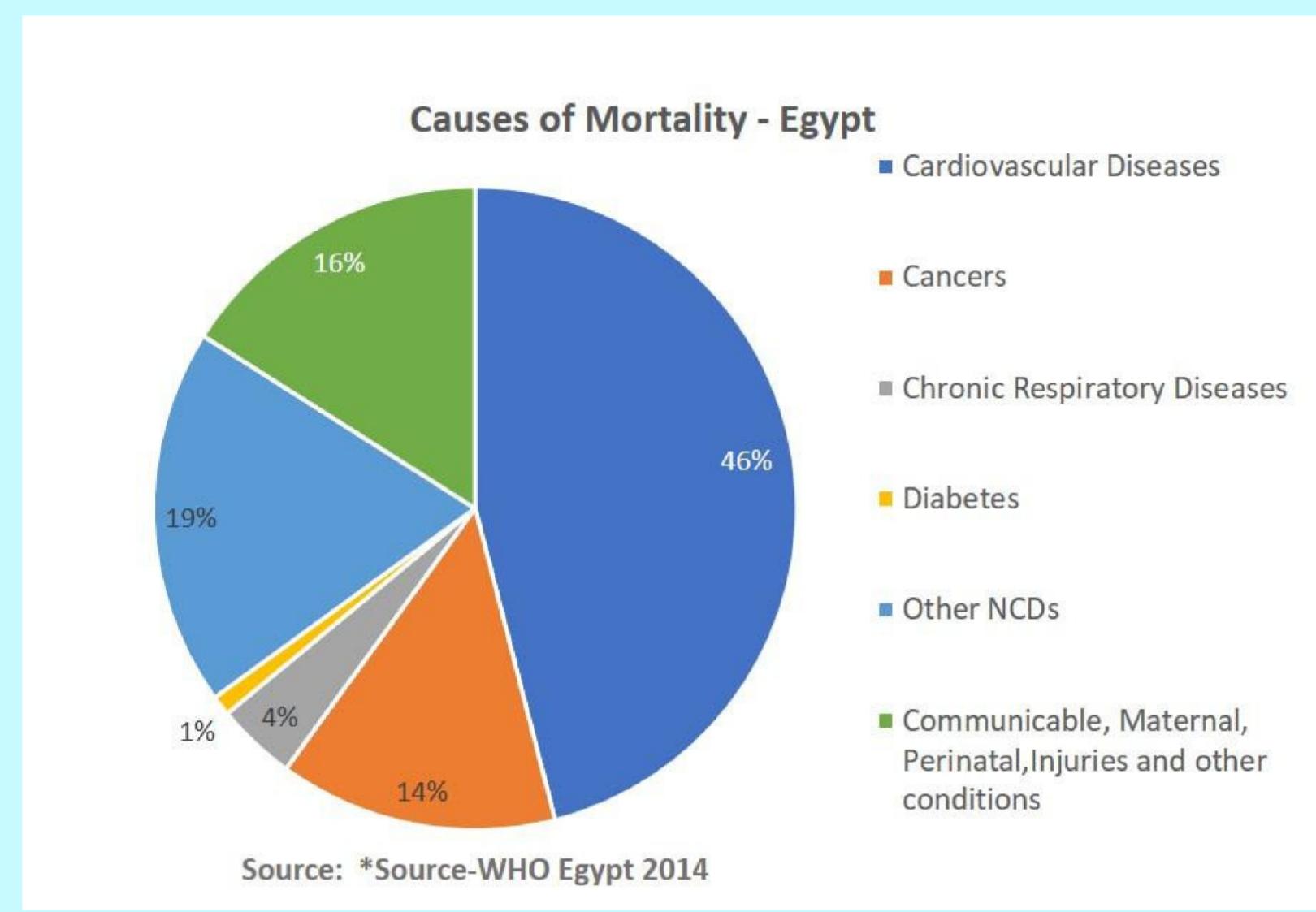
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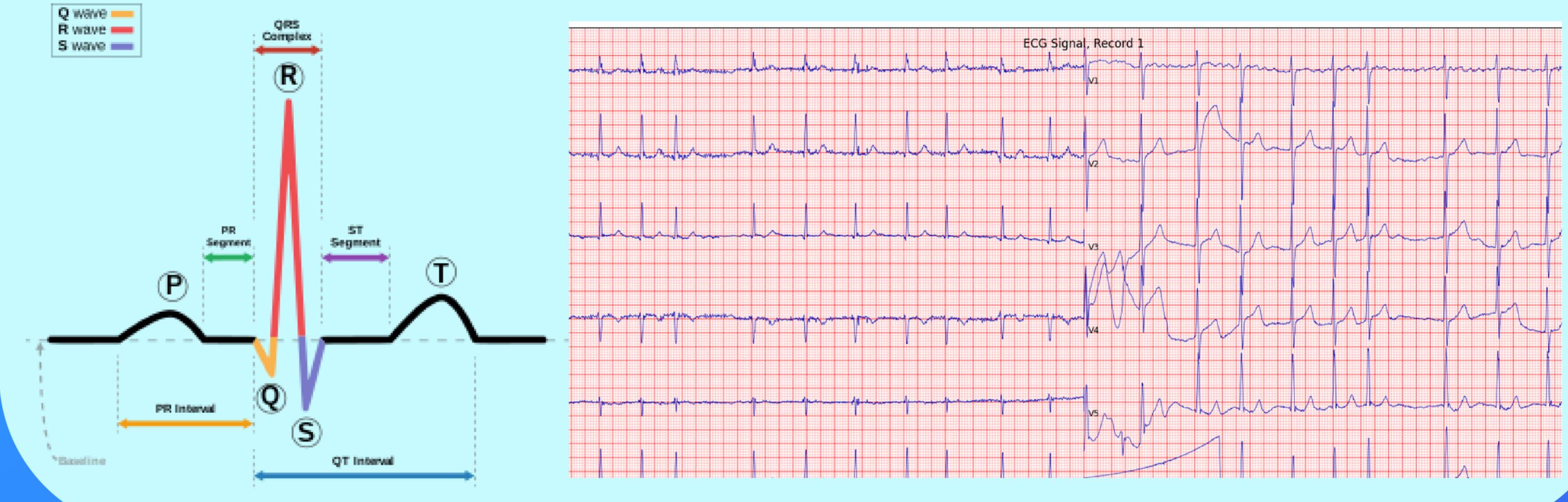
#### Problem Definition

Many lives every year are lost because of heart disease including late diagnosis or don't care for their health which can reach 31% of deaths around the world.



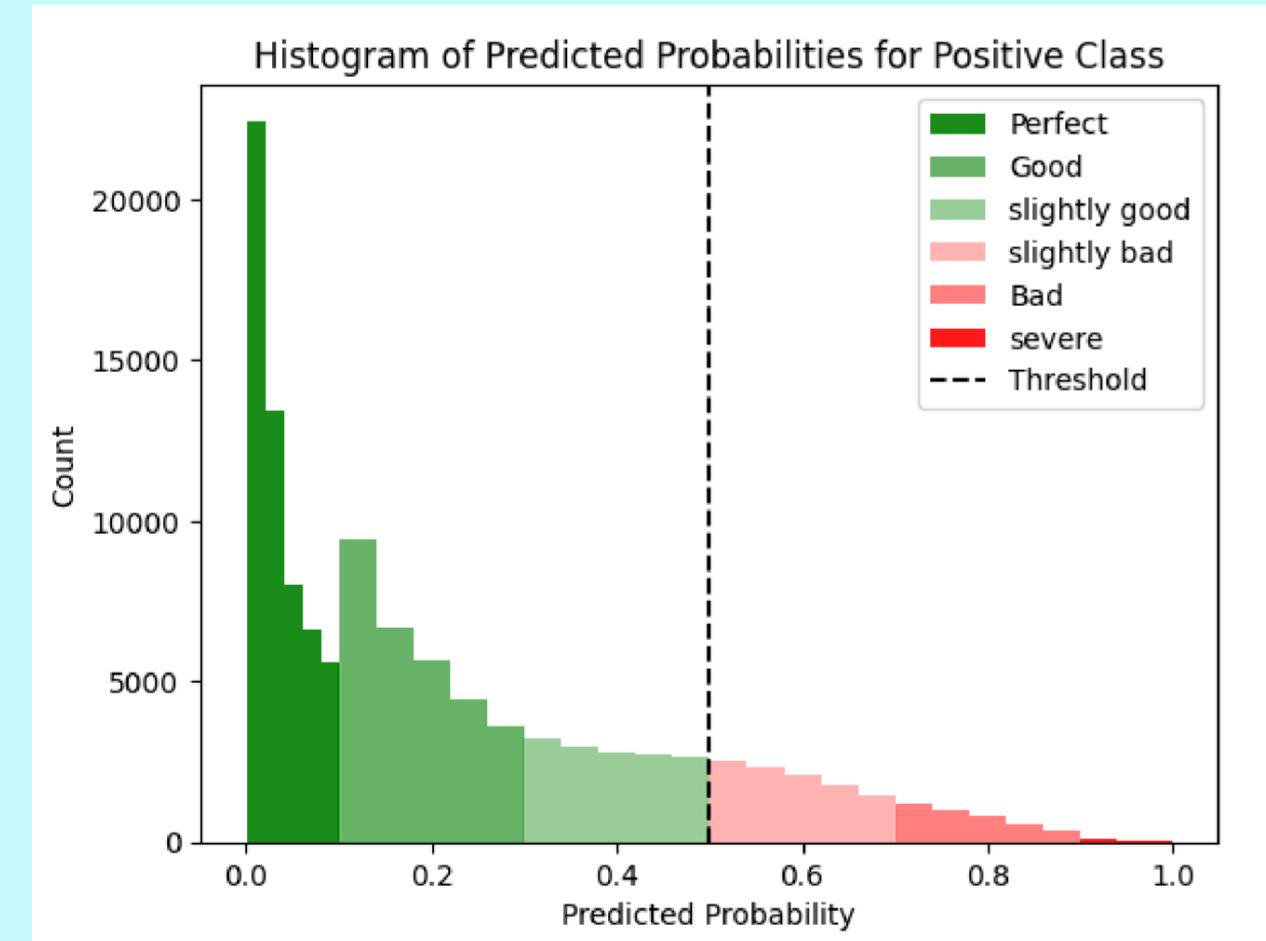
#### Methodology

- The system has two branches. These two branches use two different data types with two different AI models.
- The first dataset is clinical data which refers to the medical analysis of the patient, this data is made of merging two datasets from Kaggle, this model is friendly for any user because it just asks you some questions that can be answered very easily and can be used by the doctors.
- The second branch is ECG signals which we get from reference, this type of data cannot be easily accessed, so the main user for this branch is doctor, and anyone with ECG signals data.



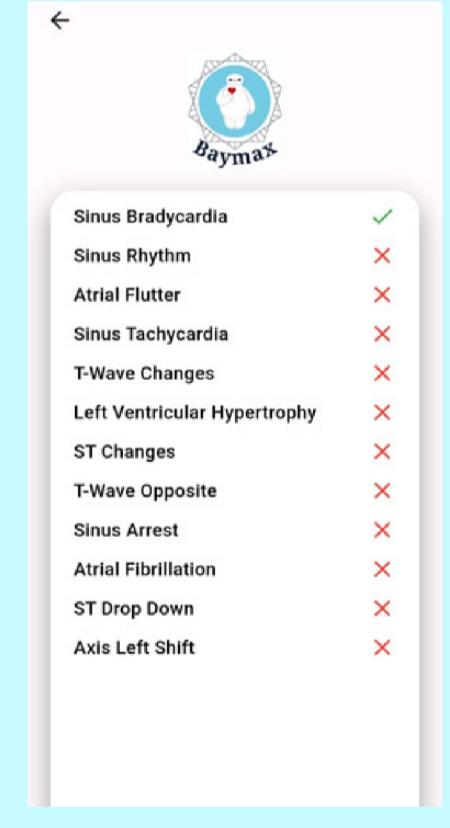
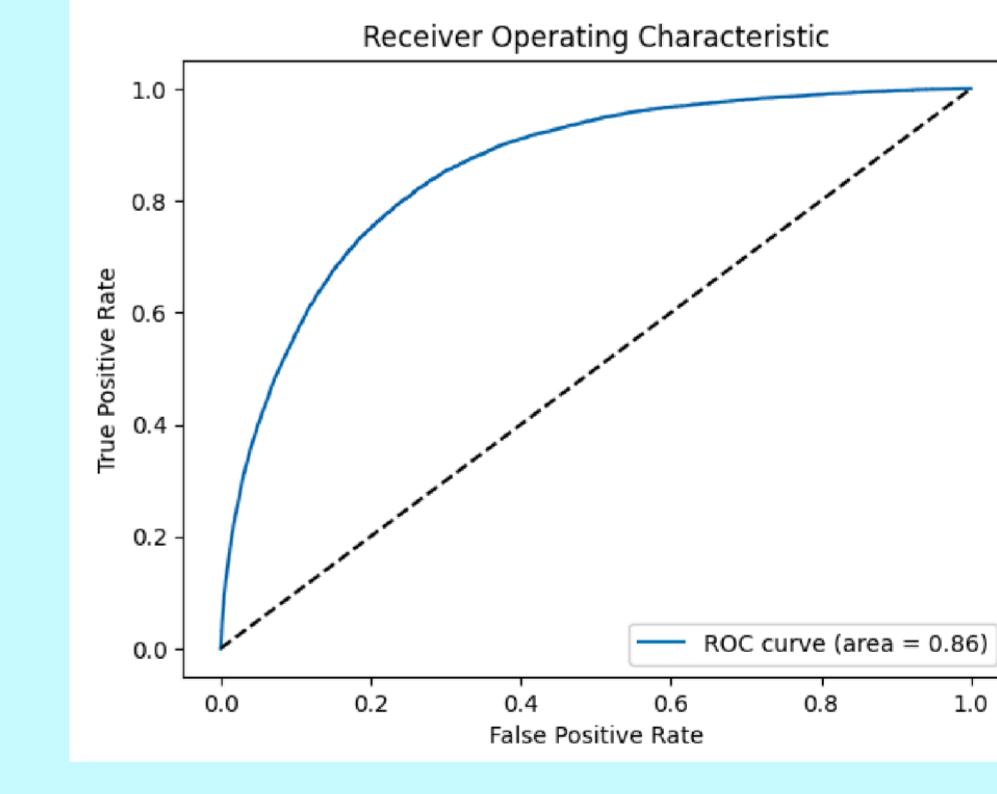
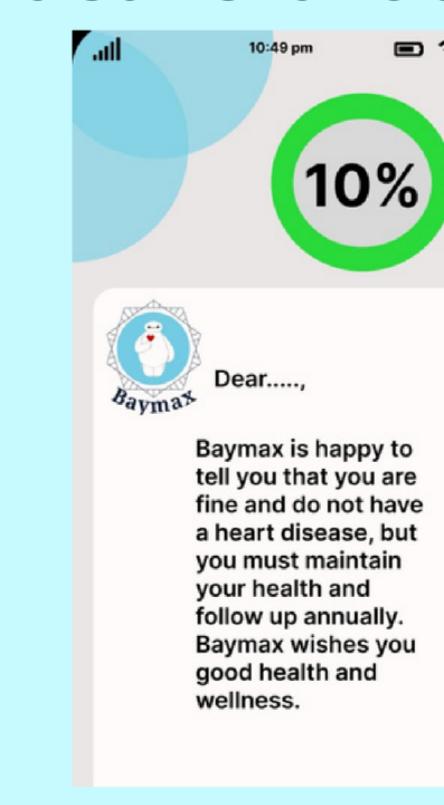
#### Vision / Objectives

- Our main objective is to reduce the number of deaths from heart diseases by diagnosing them in the early stages and trying to help these people.
- The second one is to protect healthy people from getting infected with any heart diseases.
- The third one is to highlight the medical field and give it some of our attention



#### Deliverables

- We achieved a Baseline Accuracy score of 0.9105. The baseline accuracy is a simple metric that serves as a reference point for evaluating the performance of a classification model.
- It assumes that the model predicts the most frequent class in the training data.
- In this case, the baseline accuracy represents the accuracy achieved by a model that always predicts the majority class (0) in the y\_train data.
- we delivered it through the app for easy interface



#### Used Technologies

- Machine Learning as Gradient boosting classifier
- Deep Learning as CNN (Convolution Neural Network)
- Bio-metrics



• Flutter

• TensorFlow



• TensorFlow Lite



#### Recommendations

- Digital history
- Smart Watch
- Diagnosis diseases

#### CONTACT US:

