SBE304 Team 9 Echocardiogram Project Proposal

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1. Introduction

Many patients have suffered heart attacks at some point in the past. Some are still alive and some are not. The survival and still-alive variables, when taken together, indicate whether a patient survived for at least one year following the heart attack.

What we are planning to do is given the dataset at hand,We'll use some machine learning classifiers to predict whether or not the patient will survive at least one year.

Using various porbability methods to ensure the most accurate results.

The problem addressed by past researchers was to predict from the other variables whether or not the patient will survive at least one year. The most difficult part of this problem is correctly predicting that the patient will NOT survive. (Part of the difficulty seems to be the size of the data set.)

2. Motivation

What is interesting about this project is what can be achieved using probability and statistical models in healthcare.

3. Evaluation

It can be used to evaluate the probability of survival of a patient and given the results, proceed with the appropriate actions.

A successful project would have a logical and realistic outcome.

Measuring success should be based on data manuplation (normalization and imputation) and proper using of classification methods. Methods:

- Naive Bayes (NB) Classier (or Gaussian NB Classifier)
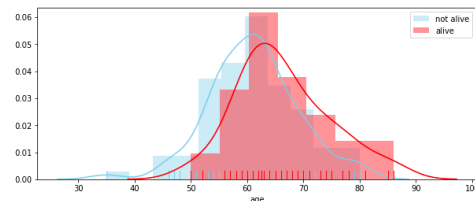
- Decision Trees

- Logistic regression

Figure 1. Example of data visualizations

4. Exploratory data analysis (EDA)

As shown in the Figure We will be using data visualization (histogram) using R programming (ggplot) to display different data.

5. Resources

- Dataset [1] [1].

6. Contributions

You are expected to share the workload evenly, and every group member is expected to participate in both the experiments and writing. (As a group, you only need to submit one proposal and one report, though. So you need to work together and coordinate your efforts.)

Clearly indicate what computational and writing task each member of your group will be participating in.

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[1]https://www.kaggle.com/loganalive/
echocardiogram-uci/metadata

7. Publicity

Authors' Personal websites

- Adel Refat [2]

- Ahmed Mahdy [3]

- Youssef samed [4]

- Mahmoud Abd Elmonem [5]

References

[1] rahul bhaskaran, "echocardiogram," 2018-04-23.

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[2] https://adel-elmala.github.io
[3] https://amahdy98.github.io
[4] https://yossefsameh.github.io/YossefSameh
[5] To be added