LAB 2

AIDI 2004

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# **Step 9.**

You can view the repository by following this link: [MrKintu/test-lab2: Machine Learning Models use Logistic Linear Regression and Decision Trees to analyse and predict breast cancer in women. (github.com)](https://github.com/MrKintu/test-lab2).

# **Step 2 and Step 3.**

## ***First Model:***

This model uses Logistic Linear Regression to perform machine learning on the dataset. The first step is to import the libraries and perform an exploratory analysis of the data.

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The second step is to plot the graphs describing the data.

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A blue rectangle with black text

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A graph of blue dots

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After which, the data is split into training and testing sets. The data that falls under the training set shall be pre-processed by going through a Standard Scaler. We can also make predictions and estimate the accuracy of our model.

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Lastly, we create the confusion matrix and the classification report for the algorithm. Our model is graphed using a scatter plot.

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A screen shot of a graph

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## ***Second Model:***

This machine learning algorithm is implemented using Decision Tree Classification. The first step is to load the necessary libraries and display the current dataset.

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The second step is to plot graphs describing the current dataset.

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Next, the dataset is split into training and test data. This ML algorithm shall be trained using two variations (Gini Index and Entropy) so that we may be able to compare the performance of the two variations.

The source code that describes the training of the model using both variations is added.

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The model can then be used to make predictions and have its decision tree plotted.

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A diagram of a complex number

Description automatically generated with medium confidence

A diagram of a network

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# **Step 3, Step 4, and Step 5.**

In this step, I perform the following activities:

1. Uploading the first model to the main branch of the repository.
2. Creating a new branch on the repository.
3. Uploading the second model to the newly created branch on the repository.

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# **Step 6.**

This is what the GitHub repository looks like after the commits.

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# **Step 7.**

This is the repository activity log.

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# **Step 8.**

This is the README file attached to this project.

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