Breast Cancer Risk Prediction Using IBM Auto AI

1. Introduction :

1.1 Overview :
Breast cancer is cancer that forms in the cells of the breasts. After skin cancer, breast cancer is the most common cancer diagnosed in women. Breast cancer can occur in both men and women, but it's far more common in women.

1.2 Purpose :
The recent years witnessed a considerable increase in the number of breast cancer cases. To improve the long-term survival rate for patients, the key factors are early detection and accurate diagnosis.

2. Literature Survey :

2.1 Existing Problem :
Breast cancer is one of the main causes of cancer death worldwide. Early diagnostics significantly increases the chances of correct treatment and survival, but this process is tedious and often leads to a disagreement between pathologists.So the numbers of deaths of patients are increases.

2.2 Proposed Solution :
Computer-aided diagnosis systems showed potential for improving the diagnostic accuracy. But early detection and prevention can significantly reduce the chances of death. It is important to detect breast cancer as early as possible.
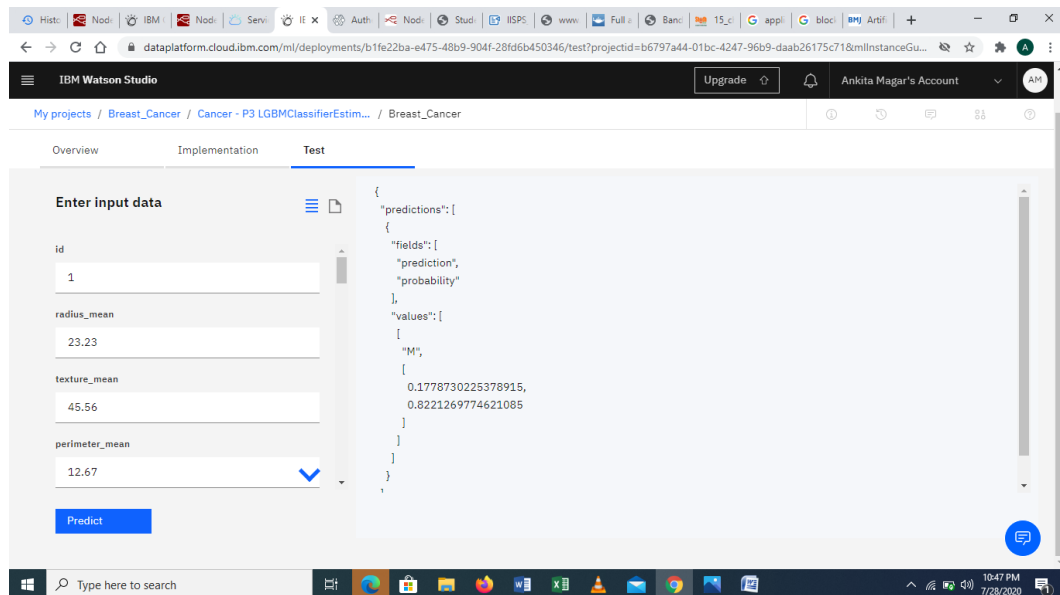Comprehensive breast cancer risk prediction models, able to classify women into clinically meaningful risk groups, will enable identifying and targeting women at high-risk, while reducing interventions in those at low risk.

3. Theorotical Analysis :

3.1 Block Diagram :

Input Layer   Hidden Layer 1   Hidden Layer 2   Output Layer
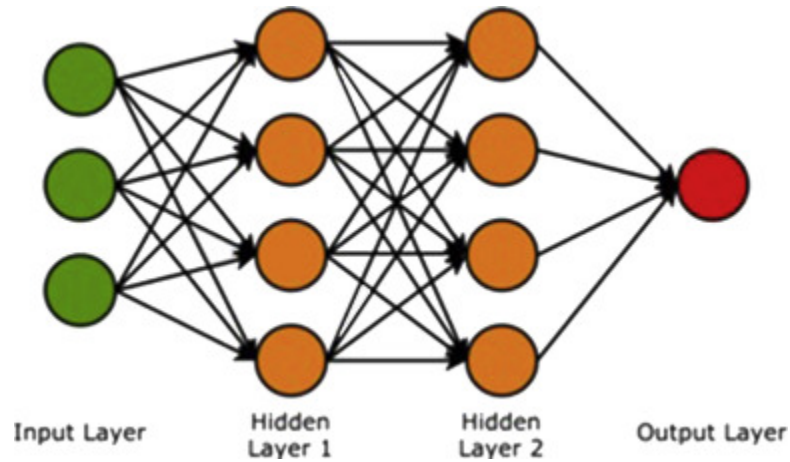
3.2 Hardware / Software Designing :

4. Experimental Investigation :

1. Collection of data set from Kaggle.
2. On IBM Watson studio machine learning using auto ai build a model to predict Breast Cancer Risk
    1. first create account on IBM Watson studio.

2. using add to project choose auto AI and then upload the data set from kaggle into the data assets.

3. deploy the model and test with the various values .

4. create a node red app with credentials cloud foundary app.

5. create a NODE-RED flow to predict values

6. deploy the flow model and put values in it to predict the model.

5. Flowchart :
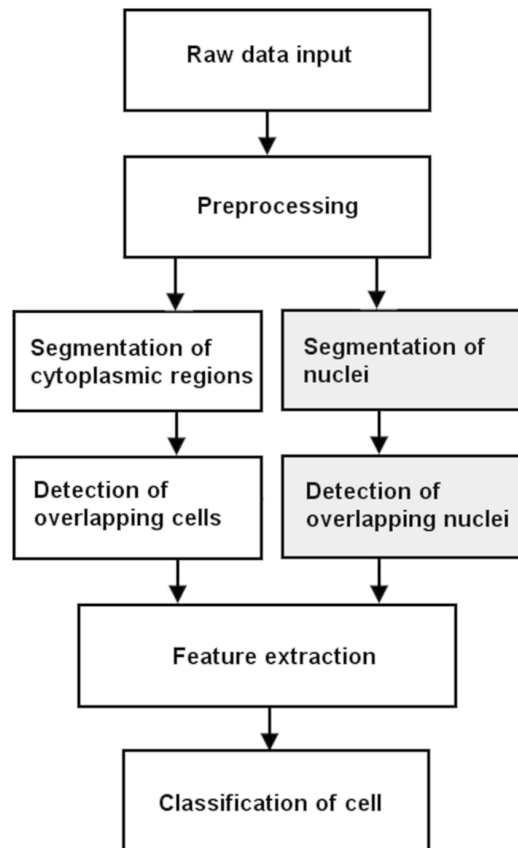
6. Result :

The Breast Cancer Risk Prediction using Watson Auto AI with the help of machine learning to predict the dignosis either M or B cells used for building the Breast Cancer model.

7. Advantages & Disadvantages :

7.1 Advantages :

- ○ Machine learning techniques can be applied on cancer patient records which update with patient feedback after their treatment.
- ○ This can be used to analyze the data from various cancer institutes

7.2 Disadvantages :

- ○ The disadvantage of this is if the data is not sufficient then we can not predicted correct value.

8. Applications :

Breast cancer risk assessment provides an estimation of disease risk that can be used to guide management for women at all levels of risk. In addition, the likelihood that breast cancer risk is due to specific genetic susceptibility (such as BRCA1 or BRCA2 mutations) can be determined.

9. Conclusion :

Cancer detection and prevention is still a challenging for the upgraded and modern medical technology. After implementing a lot of statistical analyses which is based on those people who are affected in various cancer types are based on some general risk factors and symptoms have been discovered.
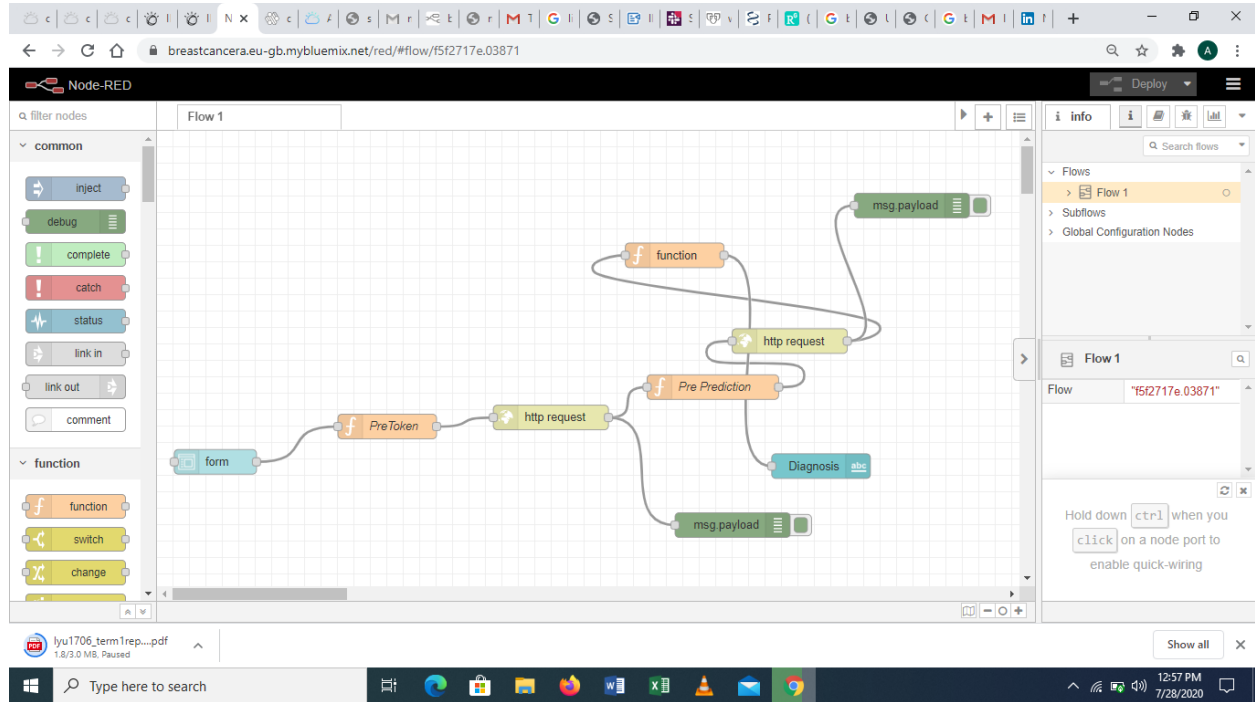
10. Future Scope :

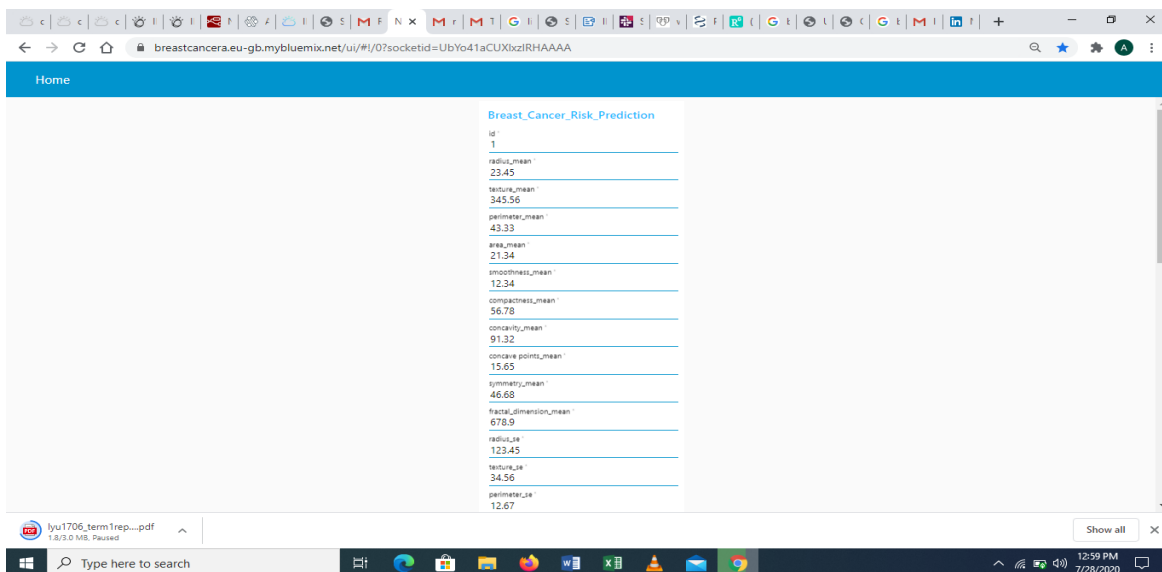In Future Decrease the number of columns and number of computation.

11. Bibilography :

1. Kaggle for downloading the dataset.
2. IBM Watson studio

12. Appendix :

12.1 Source Code/Design :

12.2 UI Output :

area_se
19.32

smoothness_se
67.82

compactness_se
17.89

concavity_se
45.67

concave points_se
12.56

symmetry_se
12.45

fractal_dimension_se
56.67

radius_worst
23.5

texture_worst
56.7

perimeter_worst
12.68

area_worst
23.86

smoothness_worst smoothness_worst
30.65

compactness_worst
93.52

concavity_worst
10.43

concave points_worst
40.45

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texture_worst
56.7

perimeter_worst
12.68

area_worst
23.86

smoothness_worst smoothness_worst
30.65

compactness_worst
93.52

concavity_worst
10.43

concave points_worst
40.45

symmetry_worst
39.52

fractal_dimension_worst
23.45

Unnamed: 32
90

SUBMIT   CANCEL

Diagnosis   M