

Prediction of Cancer in situ using Machine Learning

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ABSTRACT

Article Info

Volume 8, Issue 3

Page Number : 177-182

Publication Issue

May-June-2021

Article History

Accepted : 07 May 2021

Published : 14 May 2021

Breast Cancer is one of the cancers which can be common disease to women. This project is carried out by the algorithm CNN. This CNN is best way to predict the accuracy in faster way and also you can see the result in the objective requirements. It is also common disease in cancer. The design of breast cancer is based on breast dataset to collect and have efficiency of our database. The methods by achieving 95% and 99% accuracy.

Keywords : Processor, Speed, RAM, Hard Disk, Graphics Card

I. INTRODUCTION

Breast cancer is a tumour that creates when cells in the tissue develop without the ordinary controls on cell division. It is the most widely recognized among ladies. Early analysis and treatment prevent the spread of disease. The project is to detect breast cancer by technique of ML. It has produced high rate and results is compared to the existing methods.[1] The process of cancer is to detect the tumour in different ways such as mammography, images. The cancer is disease of breast it need to check the graph, image and tables. The cells has increase when the cancer is raising in the amount of requirement like tumour.[2] The tumour is one of the sense of cancer to detect in right way. [3] It is accepted that cancer pathogen is causing reducing time, method to check

the contain in the pathogen. [4] In hospital we have automatic diagnostic methods can save manpower. [5] Therefore, CAA Machine that can be pathogen to make cancer detect in the method using CNN. Therefore, this project using concept of algorithm CNN to predict the rate of accuracy, it also show the result based on the objective.

II. METHODS AND MATERIAL

Once Know the Existing System, concluded that this detection part is based on image processing. So drawbacks will overcome with AI techniques to handle automatically. For this we applied a neural Network Concept. Here one of the Architecture used in CNN Algo to predict the Desired mask Classification.

The Dataset is collection of breast cancer histopathology images with two categories benign and malignant. This will load to the algorithm and train by algorithm and predict with accuracy.

As we proposed as prototype this will used in medical field which help full to the decision making for the medical field person.

III. EXISTINGMETHODOD

There are lot of challenges these kinds of images and lot of machine learning concept applied on statistical data as well as some categories of images and also manual system to detect but these are not applicable on our desired dataset.

IV. PROPOSEDWORKFLOW METHODOD

Once Know the Existing System, concluded that this detection part is based on image processing. So drawbacks will overcome with AI techniques to handle automatically. For this we applied a neural Network Concept. Here one of the Architecture used in CNN Algo to predict the Desired mask Classification. The Dataset is collection of breast cancer histopathology images with two categories benign and malignant. This will load to the algorithm and train by algorithm and predict with accuracy.As we proposed as prototype this will used in medical field which help full to the decision making for the medical field person.

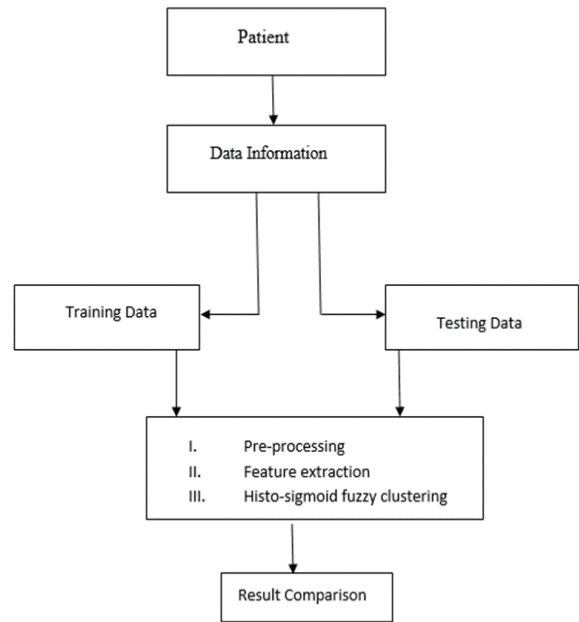


Figure 1: Method of Data Information

V. SYSTEM DESIGN

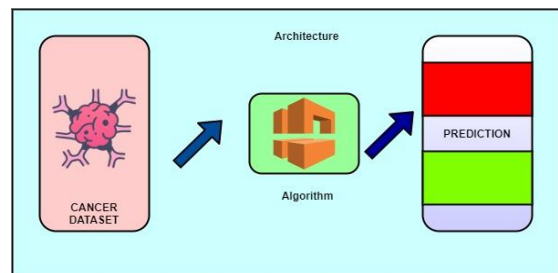


Figure 1: Design of breast cancer

The system of the proposed project includes following module. We are designing as per the diagram which includes the following components. We are using the dataset. We are using the image dataset We are applying algorithm. We are pre-processing the dataset. We are predicting the cancerous or not.

VI. FLOW DIAGRAM

A flowchart is a graphical representation. It shows steps in sequential order and is widely used in presenting the algorithms, processes. We are using the image dataset We are applying algorithm. We are pre-processing the dataset. We are predicting the cancerous or not. once we are loading dataset it will

take data to pre-processing .it will pass images once data it is collected after that using algorithm CNN if it is yes it move to classification as predict is true or not.

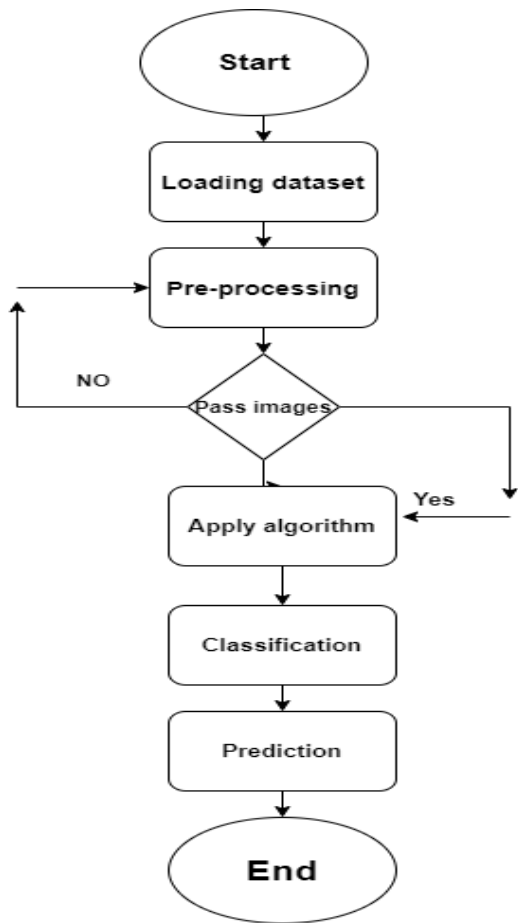


Figure 1: Flow Diagram

Usecase Diagram

Data set is collection of face images. That taken from internet resource. That separate with benign and malignant folder. The benign folder contains collection of benign histology images and malignant folder contain malignant histology images. This project uses Neural network for better result. Here Used the convolutional Neural Network (CNN). The below will tells the how the CNN works. It specifies the behaviour of the breast cancer. A concept behind this it helps us to design a system from the end user’s action.

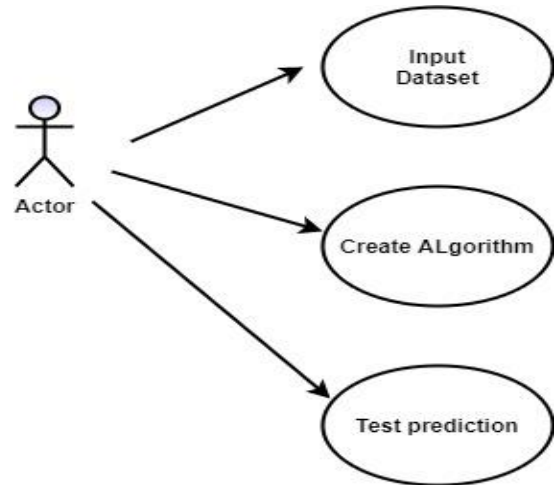


Figure 1: Use case Diagram

VII.SYSTEM IMPLEMENTATION

There are 3 steps mainly usedin this project

1. Dataset Collection
2. Implement Algorithm for train
3. Prediction

Prediction Data set is collection of face images. It is taken from internet resource. That separate with benign and malignant folder. The benign folder contains collection of benign histology images and malignant folder contain malignant histology images. This project uses Convolutional Neural network for better result (CNN).Data set is collection of face images. That taken from internet resource. That separate with benign and malignant folder. The benign folder contains collection of benign histology images and malignant folder contain malignant histology images. This project uses Neural network for better result. Here Used the convolutional Neural Network (CNN). The below will tells the how the CNN works. It specifies the behaviour of the breast cancer. A concept behind this it helps us to design a system from the end user’s action.

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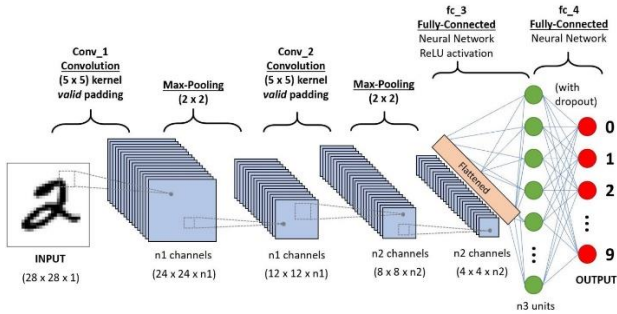


Figure 1: CNN Model

System Testing

It is a part of development. It is use for checking correct or not according into to the requirement. This will show result based on the previous detecting requirements and that testing is done in a correct order. The idea behind is to use find result behind this we need to check the cases if it is correct it will give better result. The critical which assume the qualities and effectiveness of system in meeting its objectives. Testing is an integral part of software development. It is a process in building of test cases, against which the methods need to be tested.

Testing Objectives

It is a part of development. It is use for checking correct or not according into to the requirement. This will show result based on the previous detecting requirements and that testing is done in a correct order. The idea behind is to use find result behind this we need to check the cases if it is correct it will give better result.

Testing strategies

It is a part of development. It is use for checking correct or not according into to the requirement. This will show result based on the previous detecting requirements and that testing is done in a correct order. The idea behind is to use find result behind this

we need to check the cases if it is correct it will give better result.

It is based on the requirements you need to predict the rate of result, It will also have high rate behind all the accuracy.

Unit Testing

First method is called unit testing. It is use to check the test cases rate. It needs to check accuracy and error detecting in software. It is usually done by the user method. It can be use in different module.

Integration Testing

Second level testing is called integration testing. Integration testing it is the systematic technique for constructing the program structure while conducting tests to uncover errors associated with interfacing. In this, many tested modules are combined into sub groups, in end it provides the end result. The main goal here to check the rate of modules in proper manner.

Functional testing

Functional tests are focused on valid input, invalid input, functions or output. Identified functions must be exercised. Identified classes of application outputs must be exercised. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, value of current tests is determined.

VIII. RESULT

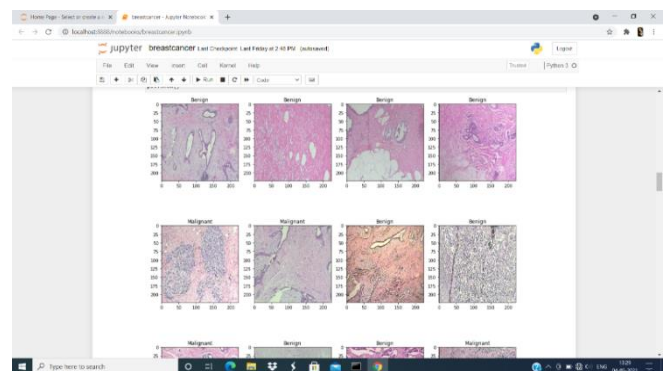


Figure 1: Dataset Collection

Prediction Data set is collection of face images. It is taken from internet resource. That separate with benign and malignant folder. The benign folder contains collection of benign histology images and malignant folder contain malignant histology images.

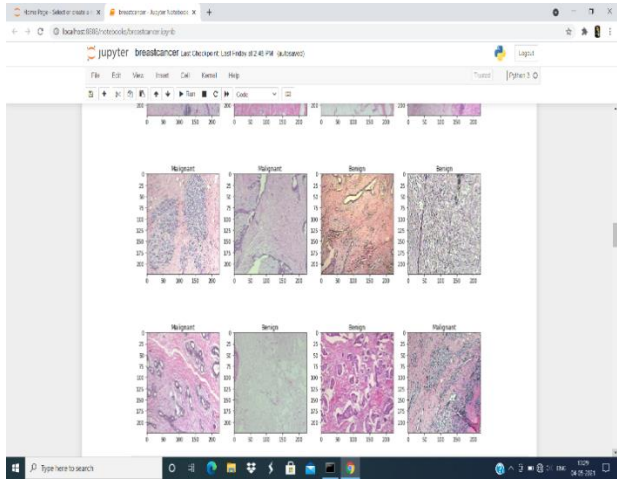


Figure 2: Collecting Dataset

The benign folder contains collection of benign histology images and malignant folder contain malignant histology images.

Out[12]: <AxesSubplot:>

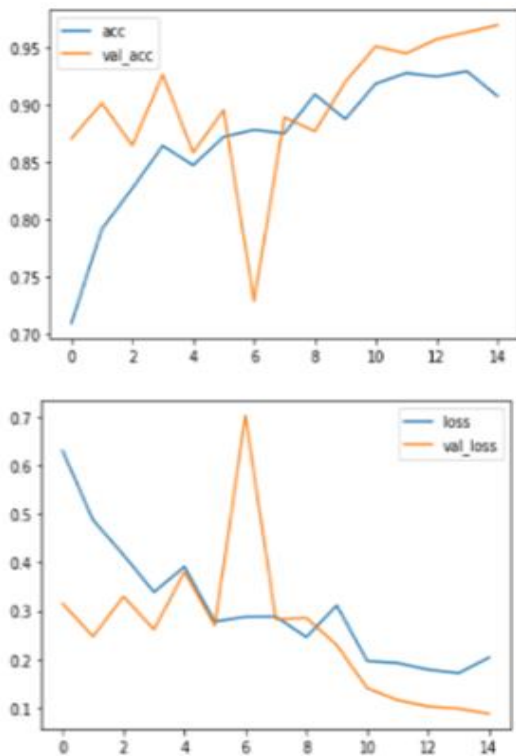


Figure 3: Implement Algorithm for train

The benign folder contains collection of benign histology images and malignant folder contain

malignant histology images. This project uses Neural network for better result. Here Used the convolutional Neural Network (CNN). The below will tells the how the CNN works. It specifies the behaviour of the breast cancer.

Confusion matrix

$$\begin{bmatrix} 101 & 1 \\ 9 & 122 \end{bmatrix}$$

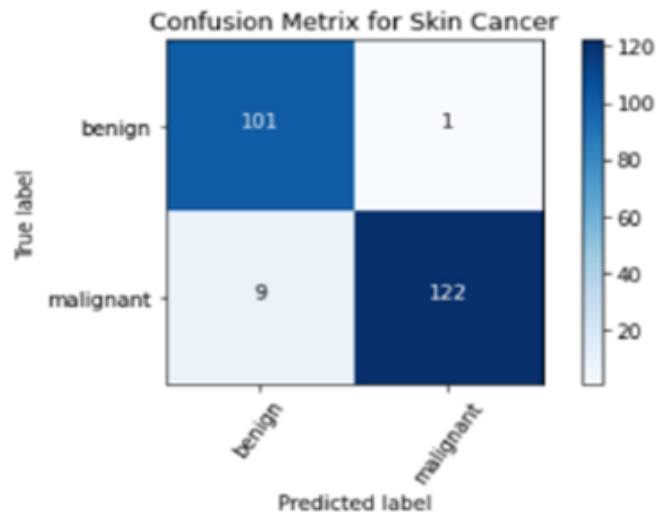


Figure 4 : Prediction

We are using the dataset. We are using the image dataset We are applying algorithm. We are pre-processing the dataset. We are predicting the cancerous or not.

IX. CONCLUSION

This project is carried out by the algorithm CNN. This CNN is best way to predict the accuracy in faster way and also you can see the result in the objective requirements. The Dataset is collection of breast cancer histopathology images with two categories benign and malignant. This will load to the algorithm and train by algorithm and predict with accuracy. As we proposed as prototype this will used in medical field which help full to the decision making for the medical field person.

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Cite this article as :

Srikanth M S, Dr. Jitendranath Mungara, Karuna S Kashyap, Kavyashree HM, Shrividya Bhatt S, Shubha G, "Prediction of Cancer in situ using Machine Learning", International Journal of Scientific Research in Science and Technology (IJSRST), Online ISSN : 2395-602X, Print ISSN : 2395-6011, Volume 8 Issue 3, pp. 177-182, May-June 2021.
Journal URL : <https://ijsrst.com/IJSRST218350>