

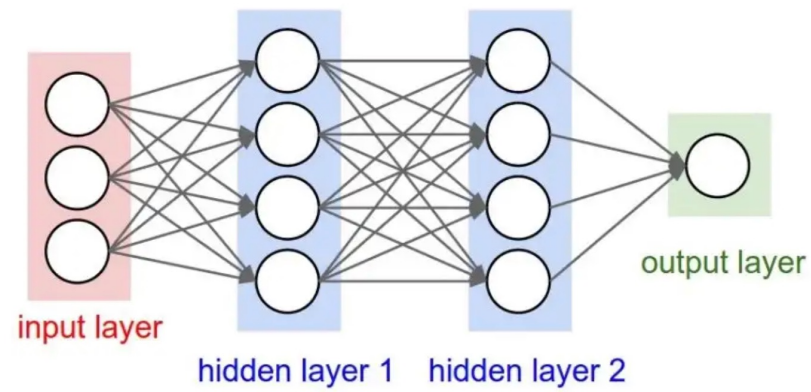


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# Breast cancer Classification





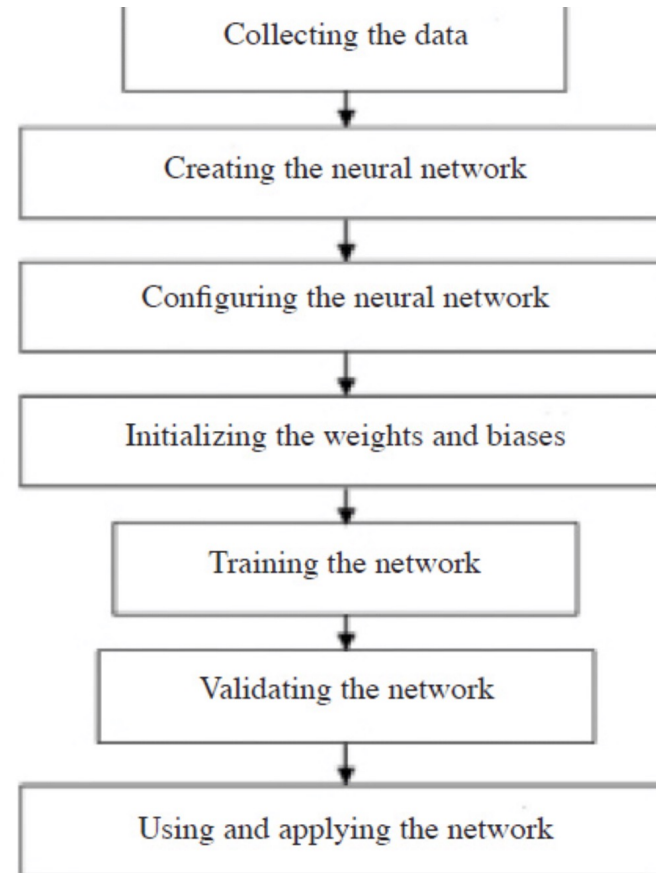
# Introduction.

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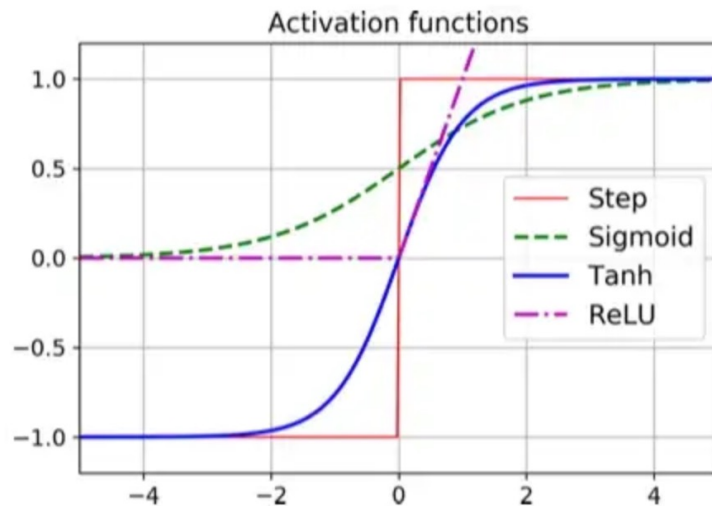
- In order to forecast the aggressiveness of breast cancer cells, I develop a Neural network model for this project.
- Used Tensorflow and Keras
- My basic task was to create a such Neural network where if we have the patient's data such as the radius, texture, perimeter, area, smoothness, compactness, concavity. Then predict whether this tumor is malignant or Benign.
- The Wisconsin dataset from UCI was utilized by me to analyze breast cancer data and train the model. While UCI's primary tumor dataset is used to research the effects of different tumors in diverse human body sections.

## Problem Statement.

- Cancer cells continue to be the most lethal form of cancer, and the human body's capacity to resist and treat them is quite restricted, according to pertinent studies from many articles and study papers.
- As a result, it is exceedingly challenging for someone to detect it at an early stage (Non-malignant). In the USA, glioblastoma (deadliest form of brain cancer) has been diagnosed in more than two thirds of adults.
- The ACS Journal poll indicates that 83,570 persons will receive a brain tumor diagnosis in 2021. Therefore, developing such a model to detect tumors will be quite beneficial.



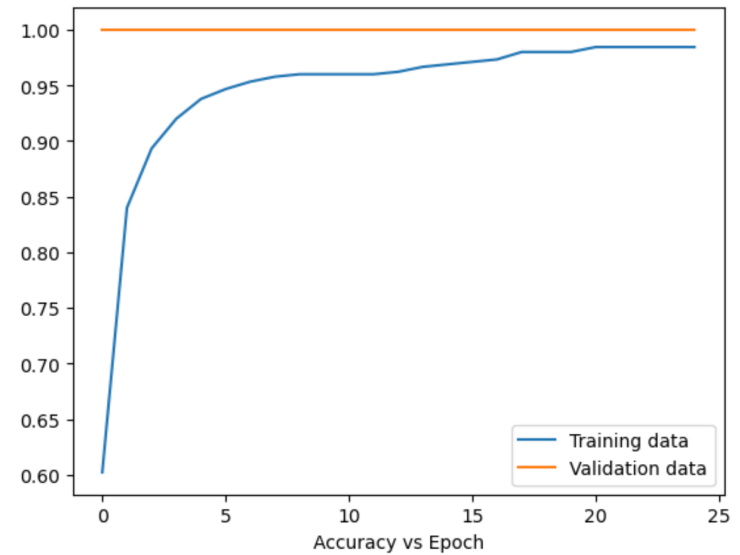
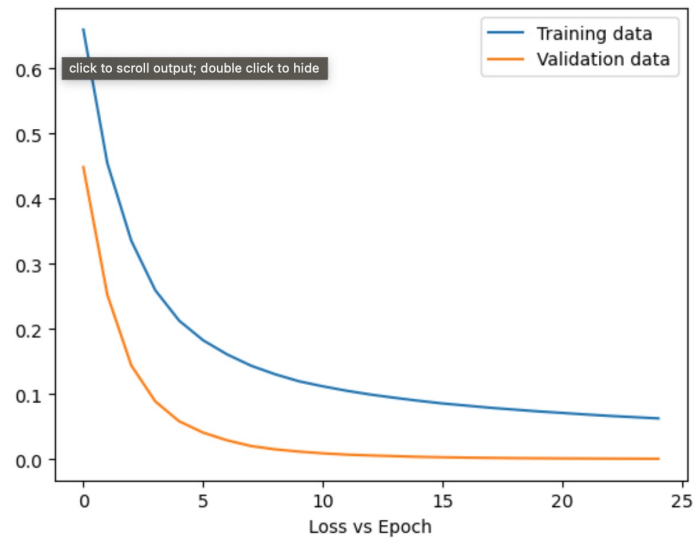
# Approach..



- Preprocess dataset, and converting string to integer data for numerical processing .Used Sklearn preprocessing to convert M:1, B:0.
- Demonstrate the model's loss, testing, and accuracy which is 97%.
- Divided the dataset into two halves, training and testing, with an 80:20 split.
- Building a neural network and connecting it to a fitting model to train data by splitting it into 4 different variables like X-train, Y-train, X-test, Y-test.
- Then plot Accuracy and loss graph.

# Results.

- Created a Neural network to predict the class of a new test image after successfully loading the dataset into training.
- Evaluated the performance of model under two different activation functions – ‘relu’ and ‘sigmoid’ and achieved 97% accuracy.





# Conclusion

After successfully finishing the project and conducting extensive study, I discovered that several factors, ranging from lifestyle choices to genetics, contribute to the initial development of cancer.

The treatment depends heavily on variables including radius, texture, perimeter, area, smoothness, compactness, and concavity.

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