Phase 2 : Build a model to overfit the entire dataset

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Overleaf link for this report is here
The video description of this Phase is here

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1 Overfitting of Model

In this phase we build a model to overfit the data . We train the model with different number of neurons at a time and observe the changes in accuracy . We continue to increase number of layers and neurons to increase the accuracy. We also use logistic regression and random baseline model for evaluation purposes. Below are the models used along with the number of layers and neurons used in each model :

Model Name	Number of layer	Number of Neurons
Single layer Model	1	1
Multi layer model	2	9
Multi layer model 2	3	25
Multi layer model 3	4	113
Multi layer model 4	5	241
Multi layer model 5	5	481
Multi layer model extended	5	241

Multi layer extended model is the model where output feature also added to input features , which has 100 percent accuracy .
A random baseline classifier is a simple model that makes predictions by randomly guessing the class labels, without considering the input features. It serves as a basic point of comparison for more complex models, allowing you to assess whether your actual model is performing better than random chance

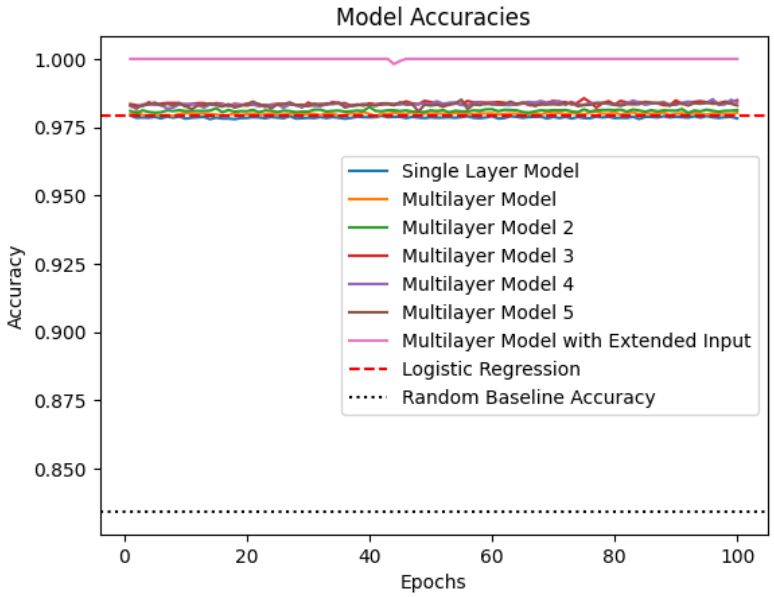

Figure 1: Model Accuracies

Below is the image which shows model accuracy with respect to 100 epochs each. .

Below is the bar graphs which compares accuracy of all models

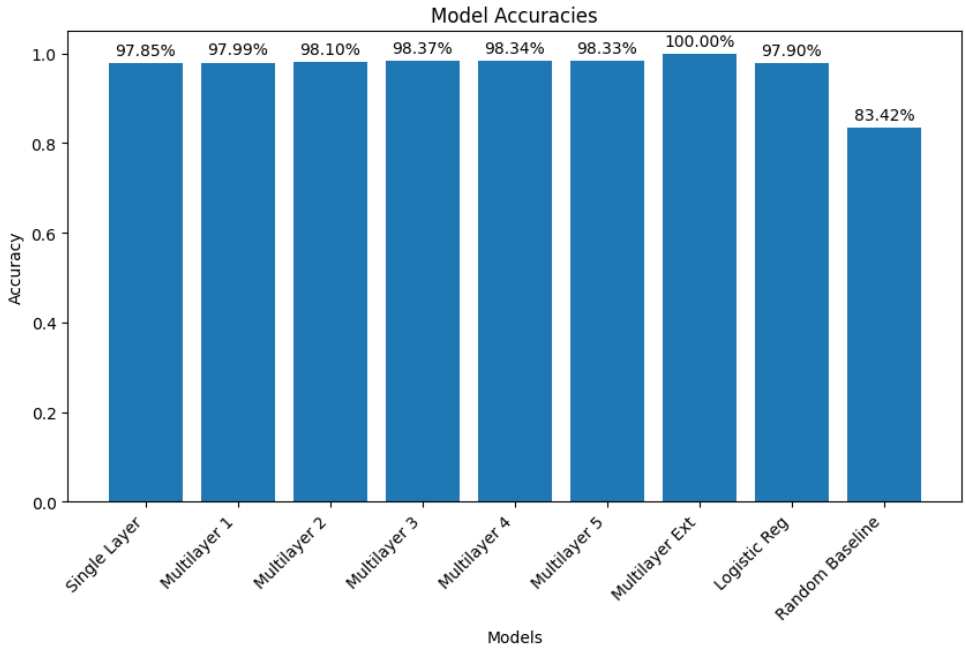

Figure 2: Model Accuracies comparision