MNIST Neural Network Design

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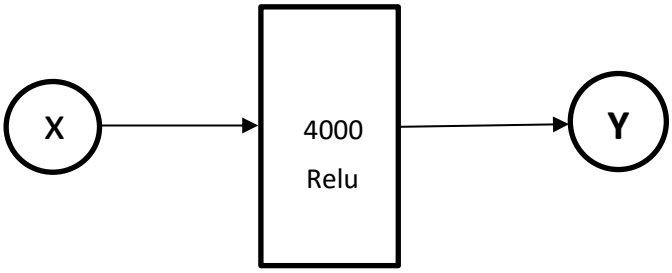
Firstly, we design a neural network with **single hidden layer** and **32** neurons in it. This neural network gives only around **85%** accuracy. So, we decided to increase neurons in the hidden layers, and we add **4000** neurons with **relu** activation function and **sgd** optimizer. Which gives us **97.63%** accuracy.

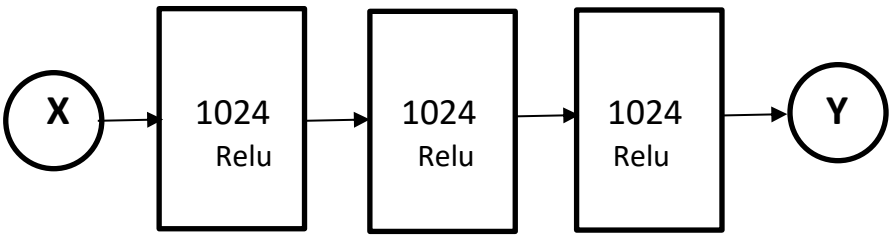
Then, we still want higher accuracy. Therefor, we decided to add **two more hidden layers** with each **1024** neurons in it. And we ended up getting **lesser** accuracy around **96.85%** than previous model.

Finally, with the **single hidden layer** we add more neurons up to **5000**, also we change the optimization function from sgd to **RMSProp** to check whether it gives us enhancement or not. Eventually, we get **98.43%** accuracy.

(1) Test Accuracy = 97.63%



(2) Test Accuracy = 96.85%



(3) Test Accuracy = 98.43%

Optimizer = RMSProp