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ELE 547

Assignment 4

***ReLU vs. Sigmoid***

The rectified linear unit (ReLU) activation function produced a model that was at 50% accurate on average when 10 epochs were executed. In order to increase the accuracy to around 90%, 50 epochs were required and this took about 20 minutes to execute. The sigmoid activation function did not generate a very accurate model. On average the model accuracy was roughly 10% after 10 epochs. When the number of epochs were increased the accuracy did not improve at all. This behavior shown by the sigmoid activation function seems to be due to the vanishing gradient problem that can be encountered by these types of activation functions. This issue is prominent when the model contains many hidden layers so to alleviate this, I reduced the number of layers and the accuracy began to increase per epoch but only reach 25% accuracy after 10 epochs. Overall, ReLU was more accurate and consistent than sigmoid and

PC vs. Raspberry Pi