Deep Learning Assignment 2 Optional
Arsalan Syed 961117-6331
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The three improvements that were made to the program were to increase the number of nodes in the hidden layer to 60, running for 40 epochs and adding random noise to the training batches before the forward pass. An eta of 0.024805 and lambda of 0.000929 was used. The learning rate was reduced by 5% each epoch and the momentum constant was set at 0.95. The changes that made the most improvements were increase the number of nodes and running the training for a longer period of time. This is because the network now has a higher capacity and can recognize more complex patterns. The noise did not affect the performance too much but this is because it depends on a parameter sigma. Noise is added by creating a vector of gaussian distributed values and sigma represents the standard deviation of these values (the mean was set to zero). The final result that was obtained by the program was 52.06%.