**Neural Networks Report**

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* Explanation with supporting figures of how to choose the hyper-parameter for the neural network: 20 points
* Accuracy of classification method on the handwritten digits test data: 10 points
* Accuracy of classification method on the AI Quick Draw data set: 10 points
* Compare the accuracy and training time of deep neural network (using TensorFlow) with different number of layers : 10 points

**Choosing the hyper-parameter**

**Accuracy of classification (Handwritten Digits)**

**Accuracy of classification (AI Quick Draw)**

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**Accuracy of deep neural network**

The deep neural network (using TensorFlow), when run with two hidden layers, had an accuracy of 61.416%. When run with three hidden layers, it had an accuracy of 62.482%. When run with five hidden layers, it had an accuracy of 61.736%. Finally, when run with seven hidden layers, it had an accuracy of 60.352%. The accuracy changed very little as the number of hidden layers increased.

**Hidden layers: 2**

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**Hidden layers: 3**

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**Hidden layers: 5**

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**Hidden layers: 7**

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