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Group 1 - Project Proposal

What problem did you select and why did you select it?

We have selected to proceed with working on an image classification problem

What database/dataset will you use? Is it large enough to train a deep network?

The dataset we are thinking of using is [The Street View House Numbers \(SVHN\) Dataset](#).

This is a real-world image dataset for developing object detection algorithms. It is similar to the MNIST dataset mentioned in this list but has more labelled data (over 600,000 images). The data has been collected from house numbers viewed in Google Street View.

This dataset is 2.5GB. It should be large enough to train a deep network.

What deep network will you use? Will it be a standard form of the network, or will you have to customize it?

We plan to approach this problem using convolutional neural network. Our team is still under the works of analyzing if we will customize the network.

What framework will you use to implement the network? Why?

For now, we will use pytorch. This may change as we learn more frameworks

What reference materials will you use to obtain sufficient background on applying the chosen network to the specific problem that you selected?

Initially the MNIST dataset come to mind. However, this dataset deals with a channel 3. Therefore, we will need to research additional methods to solve the problem.

How will you judge the performance of the network? What metrics will you use?

We will:

- check the loss function change per trial.
- Use dropout nodes to check for over fitting.
- Early stopping methods.
- Other methods may be used as the project proceeds.

Provide a rough schedule for completing the project.

We dynamic schedule because of our ML2 course work. But We will get it done.