Handwritten Digit Recognition Using CNN

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Description

The goal of this project was to recognize one of our own hand-written numbers using a trained model using the MNIST dataset. The MNIST dataset contains a large number of hand written digits and corresponding label (correct number).

Novelty

Sir, in the presentation we gave in class you asked us if we are going to implement the algorithm i.e. CNN on our own and we said yes.

So, we have implemented CNN on our own. We have not used any built-in functions or libraries for making the network.

Our project basically has two modules, one is mnist_loader.py to load the MNIST dataset and the other is digit recognition.py which is a module to implement the stochastic gradient descent learning algorithm for a feedforward neural network. Gradients are calculated using backpropagation.

I have uploaded the data set and all the code files on GitHub as the dataset was too big to upload on slate and link to that is:

https://github.com/amd23/ArtificialIntelligenceSemesterProject

Rest I am also uploading the source code files along with comments on slate too.

Thank you so much.