Abstract: Training Neural Networks to Recognize Hand-Written Digits: An Overview of Neural Networks and Gradient Descent

We present an overview of neural networks and their optimizers. Using the MNIST data set, we are able to test the efficiency of each gradient descent methods. We have found that although neural networks can function very efficiency using today's training methods, it is not a trivial task to implement them into different applications and multiple neural networks is often required to complete complicated tasks.