Homework 4 Answer

A classifier and a game

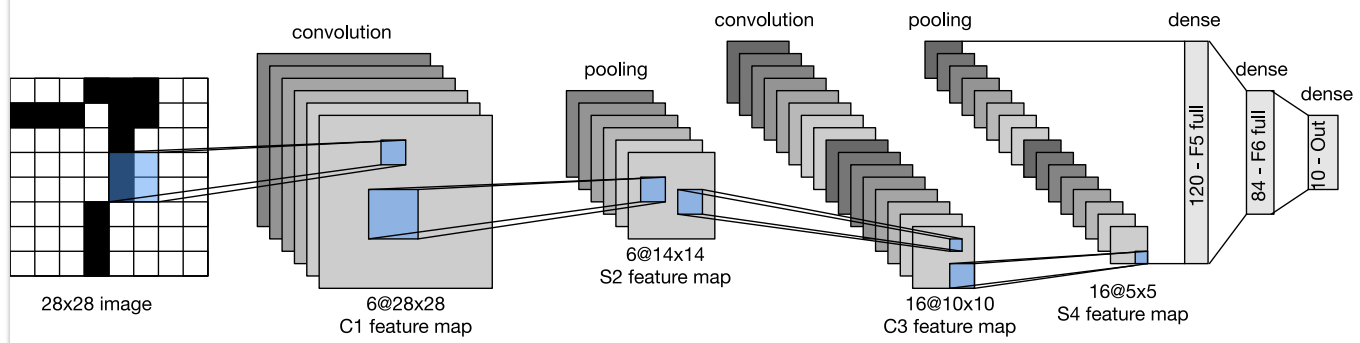Notebook

Terminology

Learning Rate

See article

The learning rate is a hyperparameter that controls how much to change the model in response to the estimated error each time the model weights are updated. Choosing the learning rate is challenging as a value too small may result in a long training process that could get stuck, whereas a value too large may result in learning a sub-optimal set of weights too fast or an unstable training process.

LeNet - a simple CNN architecture originally designed for image classification.

The basic units in each convolutional block are a convolutional layer, a sigmoid activation function, and a subsequent average pooling operation. These layers map spatially arranged inputs to a number of two-dimensional feature maps, typically increasing the number of channels.
In order to pass output from the convolutional block to the dense block, we must flatten each example .

Adam - a training algorithm available in PyTorch - see this paper