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7. Classification for MNIST using deep neural networks

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In this section, we are going to use deep neural networks to perform the same classification tasks as in the previous sections. We will use [PyTorch](#), a python deep learning framework. Using a framework like this, you don't have to implement all of the details (like in the earlier problem) and can spend more time on your high level architecture.

Setup Overview To setup PyTorch, navigate to [their website](#) in your browser, select your operating system to begin downloading. Your selection for **OS** and **Package Manager** will depend on your local environment. If you are on a Mac and use pip as your Python package manager, select "OSX" and "Python 3" for use with PyTorch. Finally, you are not required to train large models, so you can safely select "None" for CUDA. If you have access to a NVIDIA GPU enabled environment with the CUDA library installed, and want to try training your neural models on GPUs, feel free to install CUDA. If you select CUDA but you will have to troubleshoot on your own.

Test your installation Once you have successfully installed PyTorch using the instructions, you should test your installation to ensure it is running properly before trying to complete the exercises. For testing functionality, you can start a python REPL environment with the python command in your terminal. Then, importing PyTorch with `import torch`.

Discussion

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