

# LeNet (GPU)

```
root@autodl-container-8e424bb370-fda6e2a3:~/autodl-tmp# python LeNet.py
Conv2d output shape:      torch.Size([1, 6, 28, 28])
Sigmoid output shape:     torch.Size([1, 6, 28, 28])
AvgPool2d output shape:   torch.Size([1, 6, 14, 14])
Conv2d output shape:      torch.Size([1, 16, 10, 10])
Sigmoid output shape:     torch.Size([1, 16, 10, 10])
AvgPool2d output shape:   torch.Size([1, 16, 5, 5])
Flatten output shape:     torch.Size([1, 400])
Linear output shape:      torch.Size([1, 120])
Sigmoid output shape:     torch.Size([1, 120])
Linear output shape:      torch.Size([1, 84])
Sigmoid output shape:     torch.Size([1, 84])
Linear output shape:      torch.Size([1, 10])
Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/train-
images-idx3-ubyte.gz
Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/train-
images-idx3-ubyte.gz to ./data/FashionMNIST/raw/train-images-idx3-ubyte.gz
100%|
████████████████████████████████████████████████████████████████████████████████
██████████| 26.4M/26.4M [03:04<00:00, 143kB/s]
Extracting ./data/FashionMNIST/raw/train-images-idx3-ubyte.gz to
./data/FashionMNIST/raw

Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/train-
labels-idx1-ubyte.gz
Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/train-
labels-idx1-ubyte.gz to ./data/FashionMNIST/raw/train-labels-idx1-ubyte.gz
100%|
████████████████████████████████████████████████████████████████████████████████
██████████| 29.5k/29.5k [00:00<00:00, 147kB/s]
Extracting ./data/FashionMNIST/raw/train-labels-idx1-ubyte.gz to
./data/FashionMNIST/raw

Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/t10k-
images-idx3-ubyte.gz
Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/t10k-
images-idx3-ubyte.gz to ./data/FashionMNIST/raw/t10k-images-idx3-ubyte.gz
100%|
████████████████████████████████████████████████████████████████████████████████
██████████| 4.42M/4.42M [01:22<00:00, 53.4kB/s]
Extracting ./data/FashionMNIST/raw/t10k-images-idx3-ubyte.gz to
./data/FashionMNIST/raw

Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/t10k-
labels-idx1-ubyte.gz
Downloading http://fashion-mnist.s3-website.eu-central-1.amazonaws.com/t10k-
labels-idx1-ubyte.gz to ./data/FashionMNIST/raw/t10k-labels-idx1-ubyte.gz
100%|
████████████████████████████████████████████████████████████████████████████████
██████████| 5.15k/5.15k [00:00<00:00, 19.3MB/s]
Extracting ./data/FashionMNIST/raw/t10k-labels-idx1-ubyte.gz to
./data/FashionMNIST/raw
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training on cuda

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epoch 1, loss 1.9862, train acc 0.245, test acc 0.501
epoch 2, loss 0.8914, train acc 0.652, test acc 0.716
epoch 3, loss 0.6803, train acc 0.735, test acc 0.729
epoch 4, loss 0.6035, train acc 0.766, test acc 0.765
epoch 5, loss 0.5490, train acc 0.789, test acc 0.769
epoch 6, loss 0.5120, train acc 0.806, test acc 0.792
epoch 7, loss 0.4808, train acc 0.818, test acc 0.745
epoch 8, loss 0.4585, train acc 0.827, test acc 0.783
epoch 9, loss 0.4448, train acc 0.834, test acc 0.704
epoch 10, loss 0.4302, train acc 0.840, test acc 0.831
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```