

```

Model is Fashion_MNIST_CNN(
(layer1): Sequential(
  (0): Conv2d(1, 32, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (1): BatchNorm2d(32, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (2): ReLU()
  (3): MaxPool2d(kernel_size=2, stride=2, padding=0, dilation=1, ceil_mode=False)
)
(layer2): Sequential(
  (0): Conv2d(32, 64, kernel_size=(3, 3), stride=(1, 1))
  (1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (2): ReLU()
  (3): MaxPool2d(kernel_size=2, stride=2, padding=0, dilation=1, ceil_mode=False)
)
(fc1): Linear(in_features=2304, out_features=600, bias=True)
(drop): Dropout2d(p=0.25, inplace=False)
(fc2): Linear(in_features=600, out_features=120, bias=True)
(fc3): Linear(in_features=120, out_features=10, bias=True)
)

```

```

*****
epoch 0 | train loss : 0.4738250585583349
epoch 0 | Successful attack 1029 , correct predctions for this epoch 46971 / 48000
epoch 0 | Validation loss : 0.7029415369033813
*****
epoch 1 | train loss : 0.36021777236213287
epoch 1 | Successful attack 653 , correct predctions for this epoch 47347 / 48000
epoch 1 | Validation loss : 0.30724942684173584
*****
epoch 2 | train loss : 0.28475443784457943
epoch 2 | Successful attack 476 , correct predctions for this epoch 47524 / 48000
epoch 2 | Validation loss : 0.29848814010620117
*****
epoch 3 | train loss : 0.2621729853873452
epoch 3 | Successful attack 504 , correct predctions for this epoch 47496 / 48000
epoch 3 | Validation loss : 0.31780776381492615
*****
epoch 4 | train loss : 0.24526699474081398
epoch 4 | Successful attack 555 , correct predctions for this epoch 47445 / 48000
epoch 4 | Validation loss : 0.2925853431224823
*****
epoch 5 | train loss : 0.2270489270798862
epoch 5 | Successful attack 579 , correct predctions for this epoch 47421 / 48000
epoch 5 | Validation loss : 0.38422060012817383
*****
epoch 6 | train loss : 0.2089422828828295
epoch 6 | Successful attack 575 , correct predctions for this epoch 47425 / 48000
epoch 6 | Validation loss : 0.2971973717212677

```

epoch 7 | train loss : 0.19971134845012178

epoch 7 | Successful attack 598 , correct predctions for this epoch 47402 / 48000

epoch 7 | Validation loss : 0.3043445646762848

epoch 8 | train loss : 0.18477556931320577

epoch 8 | Successful attack 599 , correct predctions for this epoch 47401 / 48000

epoch 8 | Validation loss : 0.3000892698764801

epoch 9 | train loss : 0.1727359860825042

epoch 9 | Successful attack 580 , correct predctions for this epoch 47420 / 48000

early stopping

train accuracy : 0.9273541569709778

Validation accuracy : 0.9017499685287476