**Deep Learning Week 5 Coding HW Report**

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1. Loss: cross entropy liss
2. Network A (Resnet18 without loading weights):
   1. A screenshot of a map

      Description automatically generated
   2. A screenshot of a cell phone

      Description automatically generated
   3. Best epoch: 24
   4. Testing loss: 2.139769
   5. Testing accuracy: 51.564945%
3. Network B (Resnet18 with loading model weights before training):
   1. A screenshot of a cell phone

      Description automatically generated
   2. A screenshot of a social media post

      Description automatically generated
   3. Best epoch: 16
   4. Testing loss: 0.159227
   5. Testing accuracy: 96.087637%
4. Network C (Resnet18 with loading model and train last two layers):
   1. A picture containing screenshot

      Description automatically generated
   2. A close up of a map

      Description automatically generated
   3. Best epoch: 30
   4. Testing loss: 0.409053
   5. Testing accuracy: 92.018779%
5. Differences between the validation and the test accuracy of these models: The first network do not have stable validation loss nor training loss, thus testing accuracy is not as good as validation or training accuracy. The second network and the third network both increase their accuracy stably. However, the second network has a better testing accuracy than the third one.