EE5178: Modern Computer Vision
Programming Assignment 1 - Basics of MLP and CNN

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1 Multi-Layer Positron

1. **Graphs:**

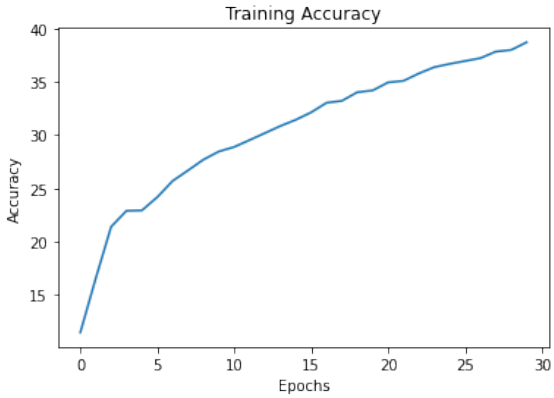

Figure 1: Training accuracy

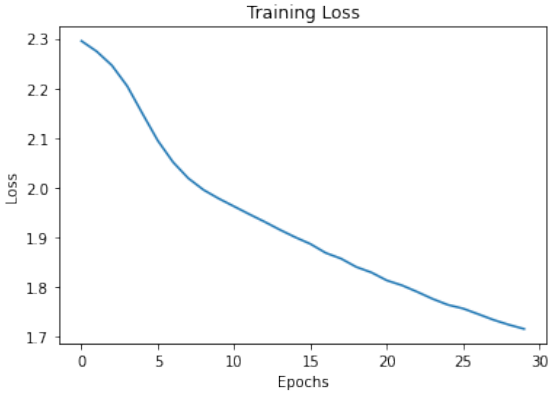

Figure 2: Training loss

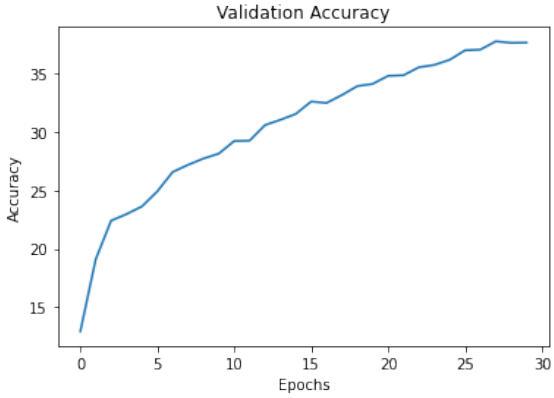

Figure 3: Validation accuracy

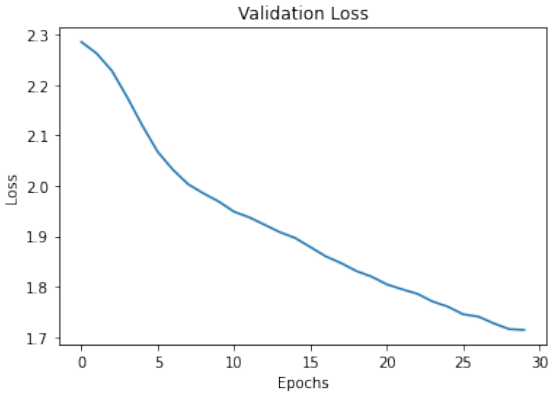

Figure 4: Validation loss

2 Convoluted Neural network

1. **Training Conditions:**
   train batch size = 64
   test batch size = 64

input size = 3072
number of epochs = 30
number of labels = 10

2. **Bottlenecks/ Challenges:**
   Being someone with minimal experiance in coding using deep neural network, it was extremely challenging for me to understand the kind of code required for such architectures. In addition, adding pretrained module to CNN model was complicated in terms of syntax.

   Further, some minute dataset type error can lead to little to no learning by model in the training stage.

3. **Graphs:**

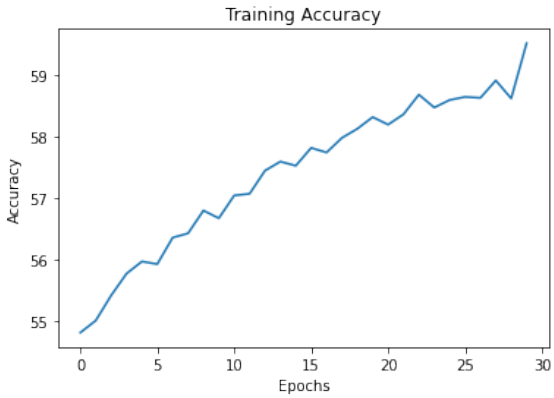

Figure 5: Training accuracy

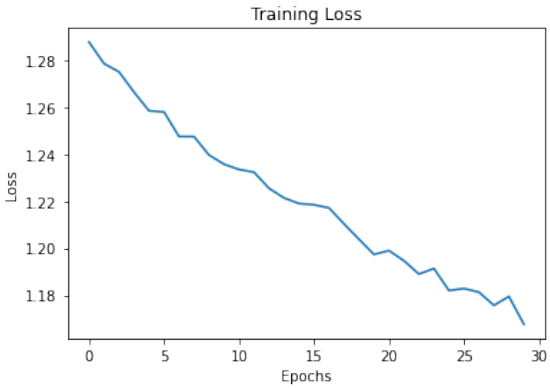

Figure 6: Training loss

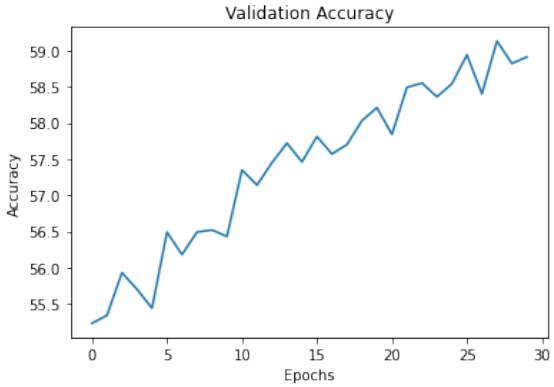

Figure 7: Validation accuracy

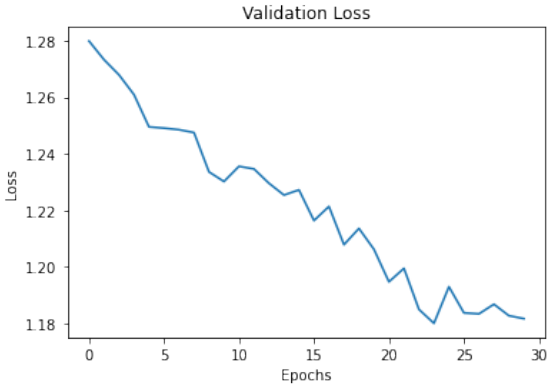

Figure 8: Validation loss

4. **Test Accuracy:**
   Accuracy of the network on the 10000 test images: 60 %