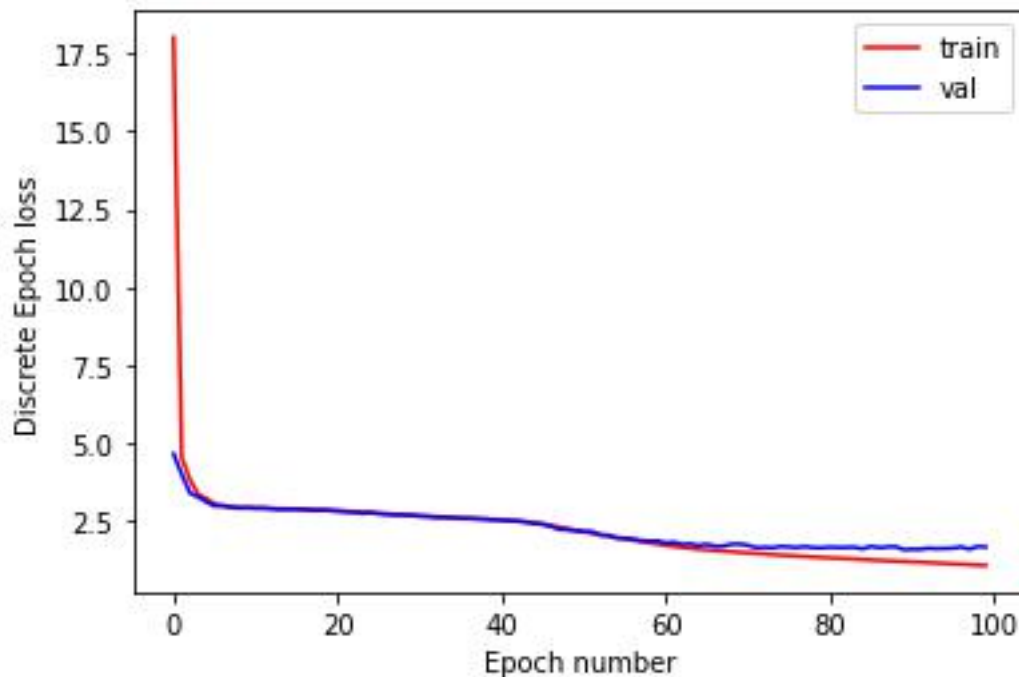


Project III

Ziyan Li

The dataset, model, and main code would be provided in the zip file.

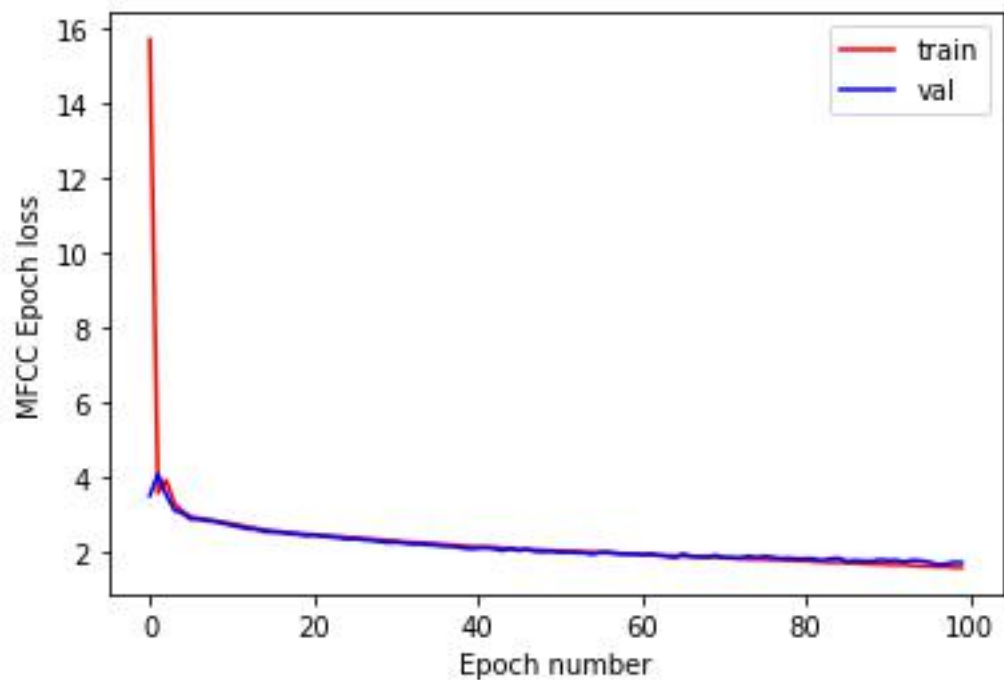
Discrete:



```
epoch 98 : train_loss= 1.0685364246368407 | val_loss= 1.663682460784912
epoch 99 : train_loss= 1.0526214122772217 | val_loss= 1.6503092646598816
Test Discrete Model
Final Train Accuracy: 0.9172932330827067
Train finished
Final Validation Accuracy: 0.9125
Val finished
```

The training loss and Val loss of the discrete model are shown on the plot above with the training and validation accuracy. The loss converged after 10 epochs and the accuracy is high.

MFCC



```

epoch 95 : train_loss= 1.6233601095292236 | val_loss= 1.735831764678955
epoch 96 : train_loss= 1.6114490032196045 | val_loss= 1.6683961153030396
epoch 97 : train_loss= 1.6143856287002563 | val_loss= 1.6812604665756226
epoch 98 : train_loss= 1.59645254611969 | val_loss= 1.7280054092407227
epoch 99 : train_loss= 1.5900047779083253 | val_loss= 1.7241719961166382
Test MFCC Model
Final Train Accuracy: 0.7255639097744361
Train finished
Final Validation Accuracy: 0.6
Val finished

```

The training loss and Val loss of the contrastive model are shown on the plot above with the training and validation accuracy. The loss converged after 10 epochs as well but the accuracy is not very optimistic.