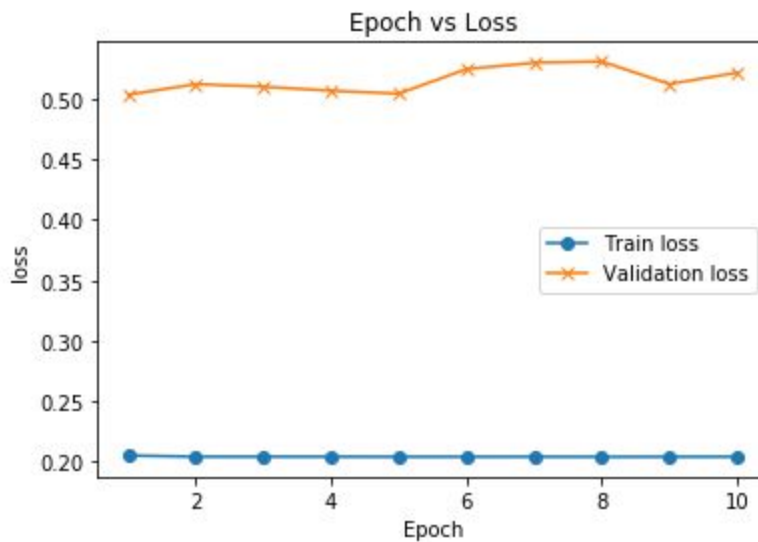


1. Batch size-150
2. Weight initialization- (kernel_initializer='random_uniform',bias_initializer='zeros')
3. Learning rate-0.01
4. Momentum -0.0
5. Optimization function- Adagrad
6. Dropout -0.2
7. Epochs=20

Accuracy=71%

```
Train on 17500 samples, validate on 7500 samples
Epoch 1/10
- 110s - loss: 0.2052 - acc: 0.7135 - val_loss: 0.5036 - val_acc: 0.0000e+00
Epoch 2/10
- 116s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5123 - val_acc: 0.0000e+00
Epoch 3/10
- 112s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5102 - val_acc: 0.0000e+00
Epoch 4/10
- 106s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5068 - val_acc: 0.0000e+00
Epoch 5/10
- 106s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5045 - val_acc: 0.0000e+00
Epoch 6/10
- 107s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5248 - val_acc: 0.0000e+00
Epoch 7/10
- 109s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5300 - val_acc: 0.0000e+00
Epoch 8/10
- 113s - loss: 0.2041 - acc: 0.7143 - val_loss: 0.5310 - val_acc: 0.0000e+00
Epoch 9/10
- 108s - loss: 0.2041 - acc: 0.7143 - val_loss: 0.5124 - val_acc: 0.0000e+00
Epoch 10/10
- 110s - loss: 0.2042 - acc: 0.7143 - val_loss: 0.5218 - val_acc: 0.0000e+00
```



Batch size-128

Weight initialization- (kernel_initializer='random_uniform',bias_initializer='zeros')

Learning rate-0.01

Momentum -0.0

Optimization function- SGD

Dropout -0.2

Epochs=10

Accuracy=74%

Train on 17500 samples, validate on 7500 samples

Epoch 1/10

- 122s - loss: 0.2048 - acc: 0.7127 - val_loss: 0.4693 - val_acc: 0.0000e+00

Epoch 2/10

- 113s - loss: 0.2027 - acc: 0.7143 - val_loss: 0.4632 - val_acc: 0.0000e+00

Epoch 3/10

- 110s - loss: 0.2015 - acc: 0.7143 - val_loss: 0.4587 - val_acc: 0.0000e+00

Epoch 4/10

- 110s - loss: 0.1975 - acc: 0.7143 - val_loss: 0.3898 - val_acc: 0.0000e+00

Epoch 5/10

- 110s - loss: 0.1929 - acc: 0.7147 - val_loss: 0.3763 - val_acc: 0.1275

Epoch 6/10

- 109s - loss: 0.1889 - acc: 0.7199 - val_loss: 0.4108 - val_acc: 0.1840

Epoch 7/10

- 109s - loss: 0.1851 - acc: 0.7289 - val_loss: 0.4553 - val_acc: 0.2039

Epoch 8/10

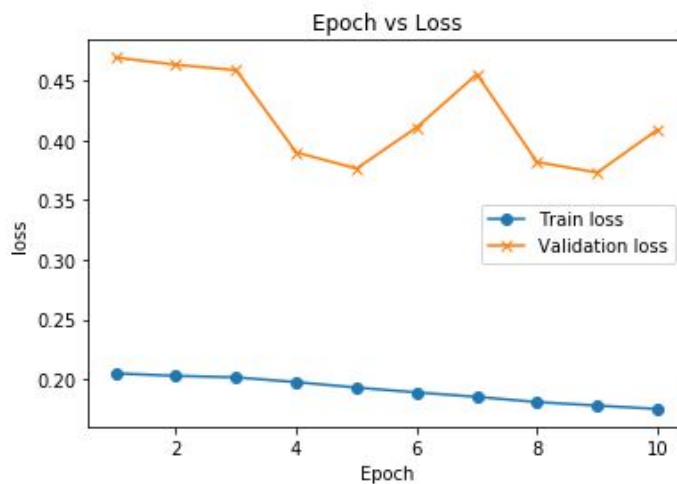
- 109s - loss: 0.1808 - acc: 0.7381 - val_loss: 0.3817 - val_acc: 0.3368

Epoch 9/10

- 111s - loss: 0.1778 - acc: 0.7431 - val_loss: 0.3730 - val_acc: 0.3313

Epoch 10/10

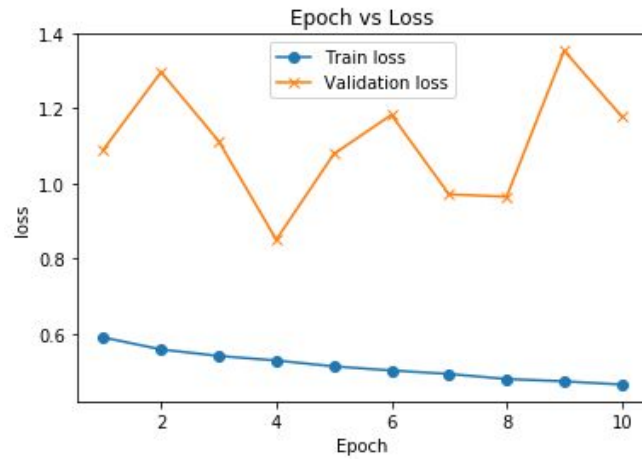
- 117s - loss: 0.1750 - acc: 0.7482 - val_loss: 0.4089 - val_acc: 0.2971



1. Batch size-128
2. Weight initialization- (kernel_initializer='random_uniform',bias_initializer='zeros')
3. Learning rate-1
4. Momentum-
5. .Optimization function- Adadelata optimizer
6. Dropout -0.2

Accuracy =78 %

```
Train on 17500 samples, validate on 7500 samples
Epoch 1/10
17500/17500 [=====] - 107s 6ms/step - loss: 0.5896 - acc: 0.7122 -
val_loss: 1.0905 - val_acc: 0.0960
Epoch 2/10
17500/17500 [=====] - 104s 6ms/step - loss: 0.5576 - acc: 0.7235 -
val_loss: 1.2967 - val_acc: 0.0761
Epoch 3/10
17500/17500 [=====] - 103s 6ms/step - loss: 0.5404 - acc: 0.7361 -
val_loss: 1.1128 - val_acc: 0.2416
Epoch 4/10
17500/17500 [=====] - 106s 6ms/step - loss: 0.5282 - acc: 0.7427 -
val_loss: 0.8501 - val_acc: 0.4544
Epoch 5/10
17500/17500 [=====] - 104s 6ms/step - loss: 0.5126 - acc: 0.7547 -
val_loss: 1.0785 - val_acc: 0.3104
Epoch 6/10
17500/17500 [=====] - 104s 6ms/step - loss: 0.5017 - acc: 0.7635 -
val_loss: 1.1828 - val_acc: 0.2655
Epoch 7/10
17500/17500 [=====] - 105s 6ms/step - loss: 0.4924 - acc: 0.7657 -
val_loss: 0.9708 - val_acc: 0.3992
Epoch 8/10
17500/17500 [=====] - 726s 41ms/step - loss: 0.4789 - acc: 0.7755 -
val_loss: 0.9644 - val_acc: 0.4376
Epoch 9/10
17500/17500 [=====] - 103s 6ms/step - loss: 0.4727 - acc: 0.7779 -
val_loss: 1.3537 - val_acc: 0.2373
Epoch 10/10
17500/17500 [=====] - 108s 6ms/step - loss: 0.4642 - acc: 0.7862 -
val_loss: 1.1781 - val_acc: 0.3513
```



1. Batch size-200
 2. Weight initialization- (kernel_initializer='random_uniform',bias_initializer='zeros')
 3. Learning rate-0.001
 4. Momentum -0.0
 5. Optimization function- Adam
 6. Dropout -0.2
 7. Epochs=20
- Accuracy=85%

Epoch 1/20
- 125s - loss: 0.2049 - acc: 0.7095 - val_loss: 0.5227 - val_acc: 0.0000e+00
Epoch 2/20
- 117s - loss: 0.1990 - acc: 0.7143 - val_loss: 0.4652 - val_acc: 0.0000e+00
Epoch 3/20
- 117s - loss: 0.1859 - acc: 0.7250 - val_loss: 0.4321 - val_acc: 0.1556
Epoch 4/20
- 116s - loss: 0.1762 - acc: 0.7437 - val_loss: 0.4467 - val_acc: 0.2828
Epoch 5/20
- 106s - loss: 0.1688 - acc: 0.7568 - val_loss: 0.4057 - val_acc: 0.3540
Epoch 6/20
- 107s - loss: 0.1643 - acc: 0.7631 - val_loss: 0.4886 - val_acc: 0.2188
Epoch 7/20
- 105s - loss: 0.1606 - acc: 0.7708 - val_loss: 0.4323 - val_acc: 0.3343
Epoch 8/20
- 102s - loss: 0.1570 - acc: 0.7733 - val_loss: 0.3505 - val_acc: 0.4099
Epoch 9/20
- 109s - loss: 0.1551 - acc: 0.7774 - val_loss: 0.4436 - val_acc: 0.3135
Epoch 10/20
- 107s - loss: 0.1486 - acc: 0.7945 - val_loss: 0.2885 - val_acc: 0.5407
Epoch 11/20
- 104s - loss: 0.1464 - acc: 0.7942 - val_loss: 0.3460 - val_acc: 0.4364
Epoch 12/20
- 105s - loss: 0.1411 - acc: 0.8041 - val_loss: 0.3418 - val_acc: 0.4596
Epoch 13/20
- 102s - loss: 0.1373 - acc: 0.8101 - val_loss: 0.4042 - val_acc: 0.3692
Epoch 14/20
- 103s - loss: 0.1344 - acc: 0.8173 - val_loss: 0.3318 - val_acc: 0.4799
Epoch 15/20
- 101s - loss: 0.1320 - acc: 0.8210 - val_loss: 0.3858 - val_acc: 0.4005
Epoch 16/20
- 103s - loss: 0.1270 - acc: 0.8271 - val_loss: 0.2990 - val_acc: 0.5323
Epoch 17/20
- 102s - loss: 0.1243 - acc: 0.8345 - val_loss: 0.3591 - val_acc: 0.4427
Epoch 18/20
- 104s - loss: 0.1202 - acc: 0.8369 - val_loss: 0.4182 - val_acc: 0.3537
Epoch 19/20
- 102s - loss: 0.1180 - acc: 0.8407 - val_loss: 0.3343 - val_acc: 0.4827
Epoch 20/20
- 103s - loss: 0.1139 - acc: 0.8523 - val_loss: 0.3417 - val_acc: 0.4837

