SB3 CLASSIFICATION (BUBLES, CBLOB, TURBID,....)

	Accuracy Train	Accuracy Test	Rank-1 Tr	Rank-1 Tst	Rank-1 Mean	TL Time - Epochs	CL Time - Epochs
Random init - 2048 emb.	80%	75% (78,67%)	74%	56%	65%	-	1h - ?
ImageNet - 2048 embedding	76%	68%	57,36%	46,67%	52%	-	4h13m - ~10000
2048 - DA - 3h	96%	71% (73%)	67,33%	64,67%	66%	3h - ?	3h - ?
2048 - DA - 20h	98%	64% (67%)	70%	67,33%	68,67%	10h+10h - ?	3h - ?
2048 - NDA - 3h	99,33%	61,36% (66%)	82%	66%	74%	3h - ?	3h - ?
2048 - NDA - 20h	98%	68% (70%)	84,67%	75,33%	80%	10h+10h - ?	3h - ?

GFL CLASSIFICATION

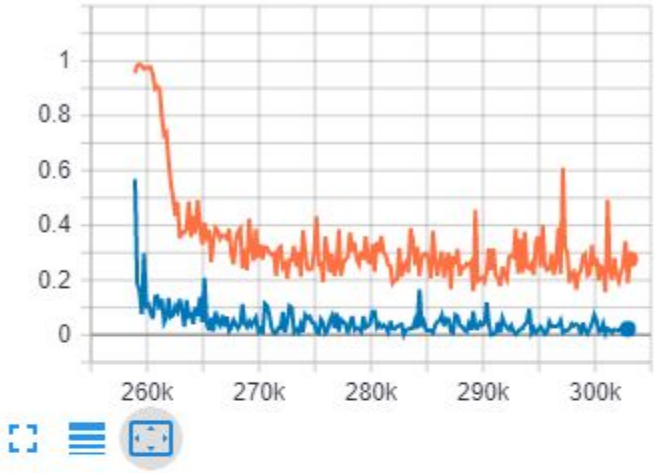
	Accuracy Train	Accuracy Test	Rank-1 Tr	Rank-1 Tst	Rank-1 Mean	TL Time - Epochs	CL Time - Epochs
Random init - 2048 emb.	68,55%	41,12%	67,08%	64,63%	65,86%	-	6h - ?
ImageNet - 2048 embedding	25,64%	35,47%	63,49%	62,84%	63,17%	-	2h - ?
2048 - DA - 20h	80,20%	70%	79,23%	77,07%	78,15%	10h+10h - ?	9h - ?
2048 - NDA - 20h	74,14%	67,68%	79,36%	75,68%	77,52%	10h+10h - ?	9h - ?

GFL Classes

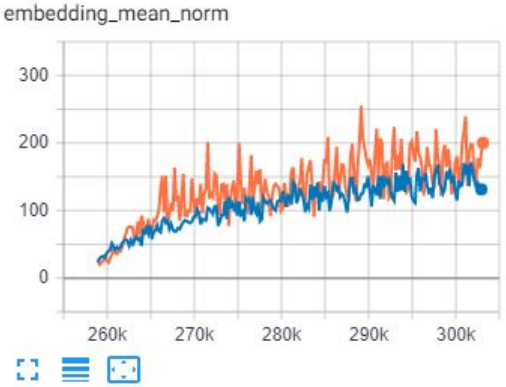
0 - Bubbles 1 - Clear blob 2 - Dilated
3 - Turbid 4 - Undefined 5 - Wall
6 - Wrinkles

2048 - DA - 20h

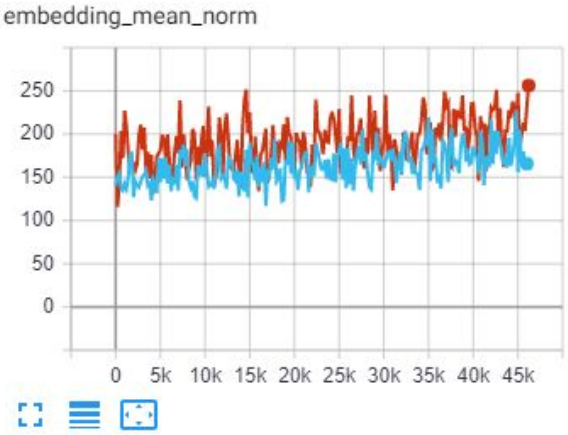
loss



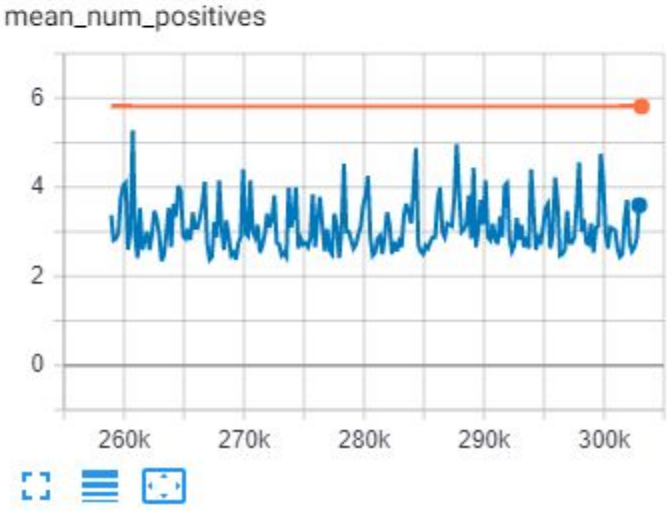
embedding_mean_norm



embedding_mean_norm

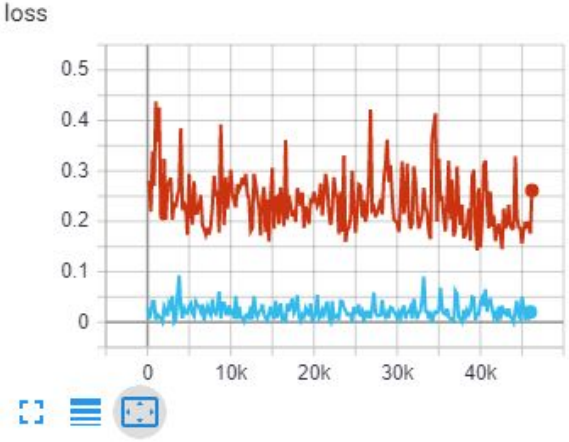


mean_num_positives

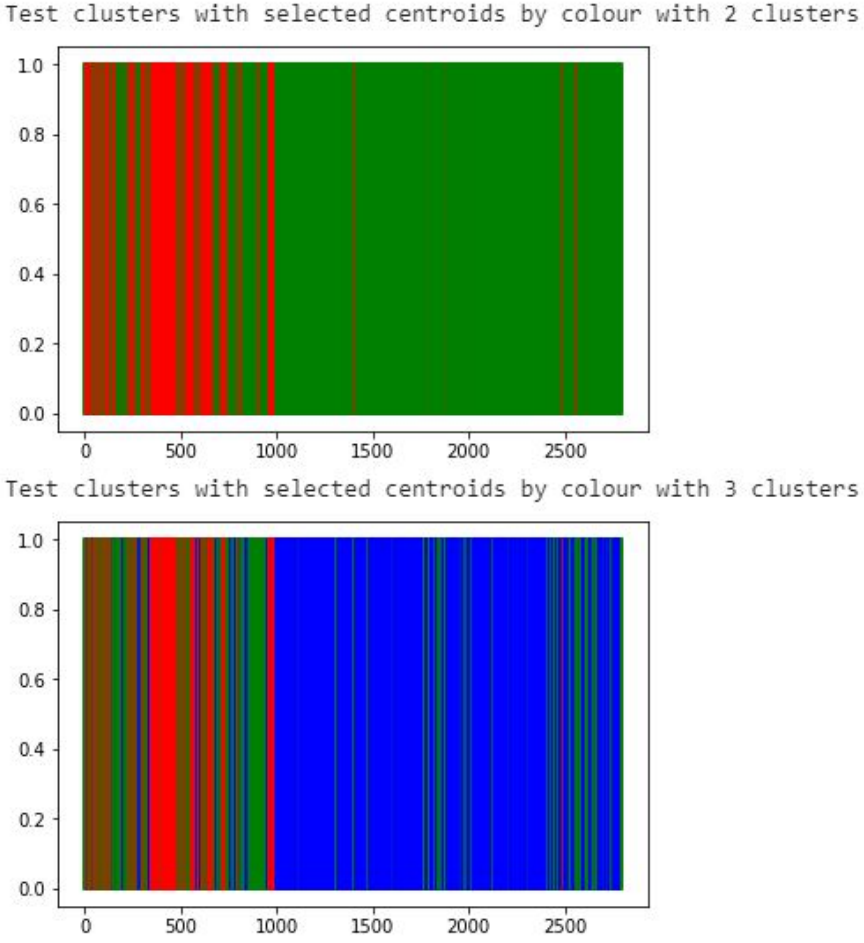


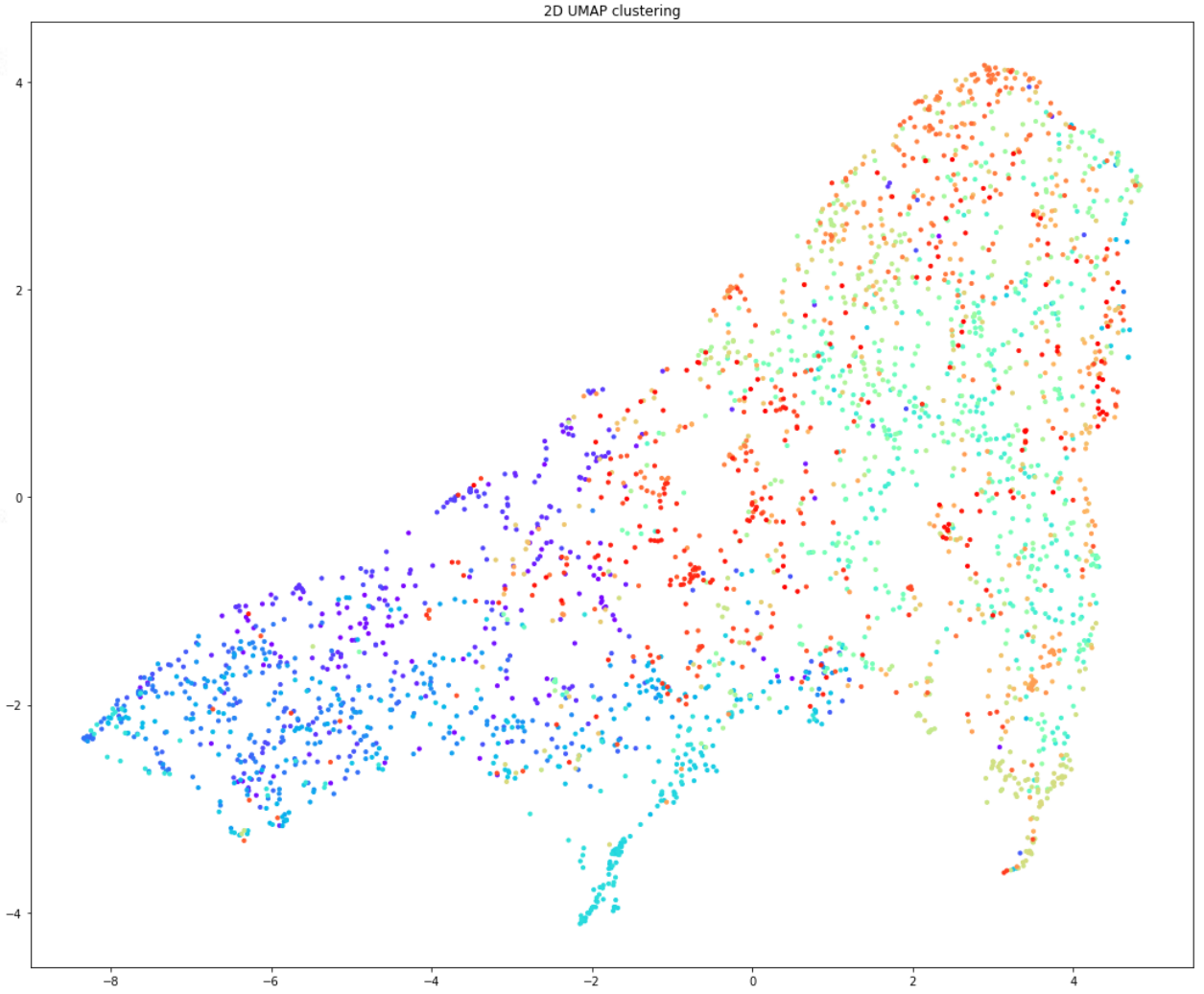
global_step

loss

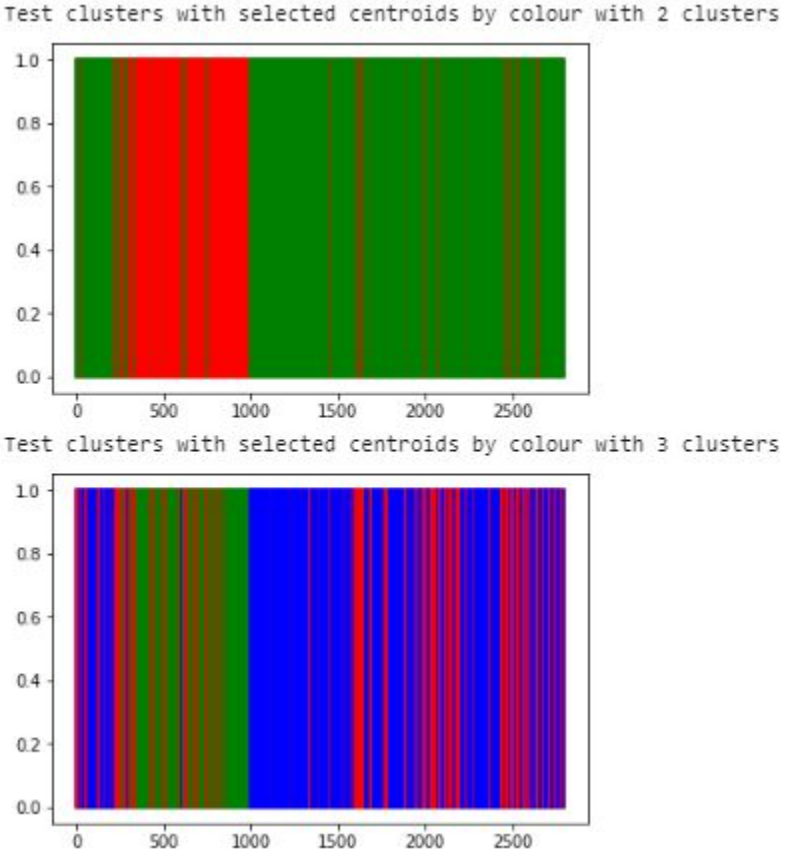


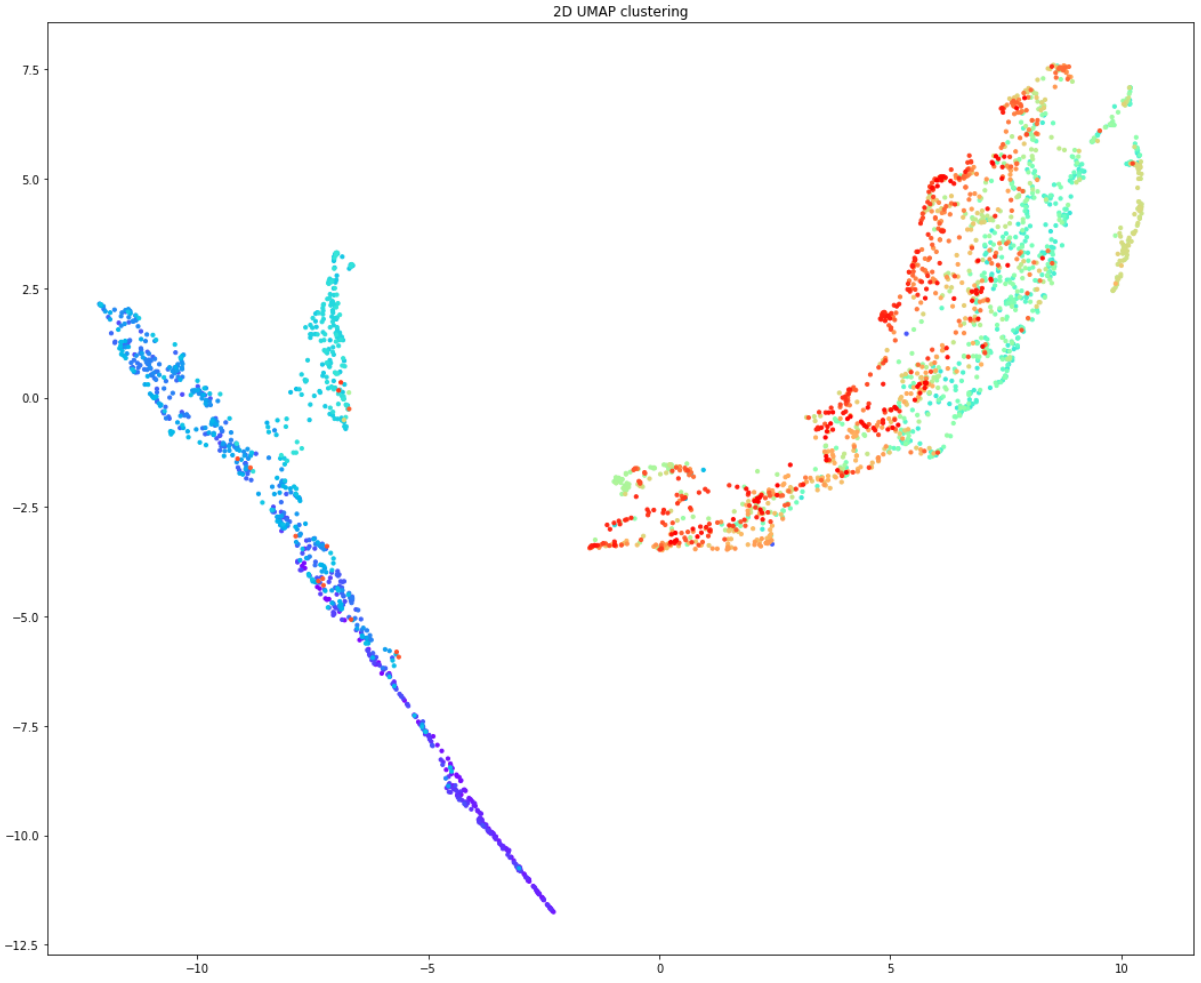
ImageNet - KNN scores





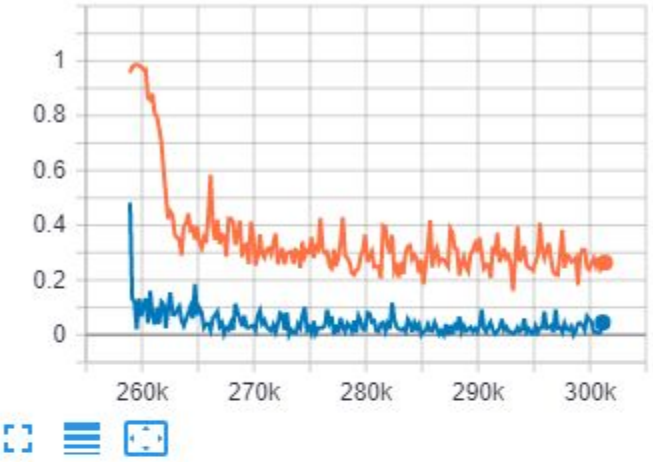
Random init (seed 200) - KNN scores



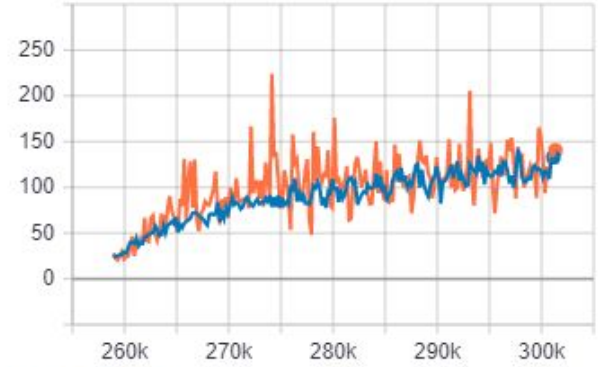


2048 - NDA - 20h

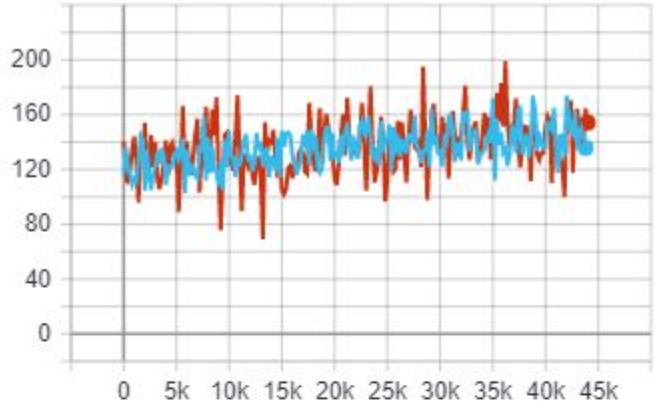
loss



embedding_mean_norm

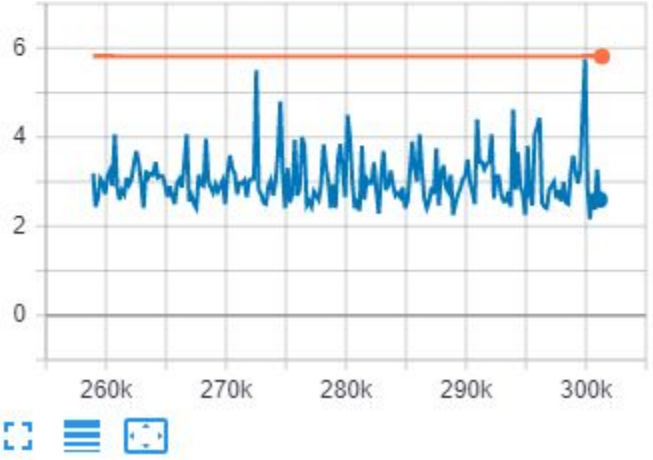


embedding_mean_norm



mean_num_positives

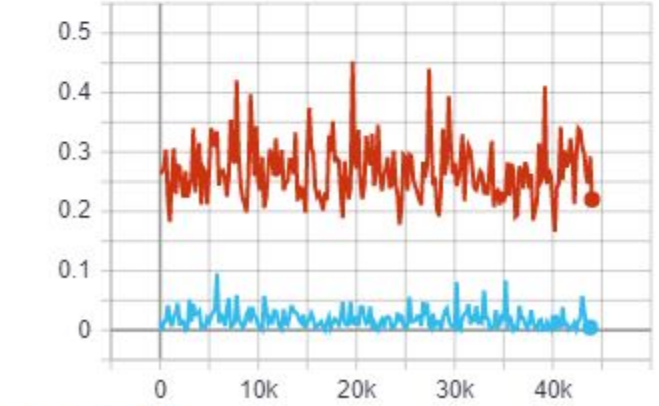
mean_num_positives



lobal_step

loss

loss



Confusion matrix: 20h-DA vs 20h-NDA **SB3**

NDA:

```
Train confusion matrix
[[25  0  0  0  0  0]
 [ 0 25  0  0  0  0]
 [ 1  0 24  0  0  0]
 [ 0  0  0 24  0  1]
 [ 0  0  0  0 25  0]
 [ 0  0  0  0  0 25]]

Train corrects per class: [25 25 24 24 25 25]
% correct classifications per class: [100. 100.  96.  96. 100. 100.]
Mean % correct classifications: 98.66666666666667

Test confusion matrix
[[14  0  4  1  3  3]
 [ 0 14  0  6  1  4]
 [ 1  0 21  0  1  2]
 [ 3  4  2 16  0  0]
 [ 0  2  0  0 22  1]
 [ 1  4  1  3  1 15]]

Test corrects per class: [14 14 21 16 22 15]
% correct classifications per class: [56. 56. 84. 64. 88. 60.]
Mean % correct classifications: 68.0
```

DA:

```
Train confusion matrix
[[25  0  0  0  0  0]
 [ 0 25  0  0  0  0]
 [ 1  0 24  0  0  0]
 [ 0  0  0 25  0  0]
 [ 0  0  0  0 25  0]
 [ 0  0  0  0  0 25]]

Train corrects per class: [25 25 24 25 25 25]
% correct classifications per class: [100. 100.  96. 100. 100. 100.]
Mean % correct classifications: 99.33333333333333

Test confusion matrix
[[20  0  2  2  0  1]
 [ 3  4  0  9  1  8]
 [ 3  1 18  0  3  0]
 [ 1  2  2 15  0  5]
 [ 0  2  0  0 19  4]
 [ 0  3  0  3  3 16]]

Test corrects per class: [20  4 18 15 19 16]
% correct classifications per class: [80. 16. 72. 60. 76. 64.]
Mean % correct classifications: 61.333333333333336
```

Confusion matrix: 20h-DA vs 20h-NDA

GFL

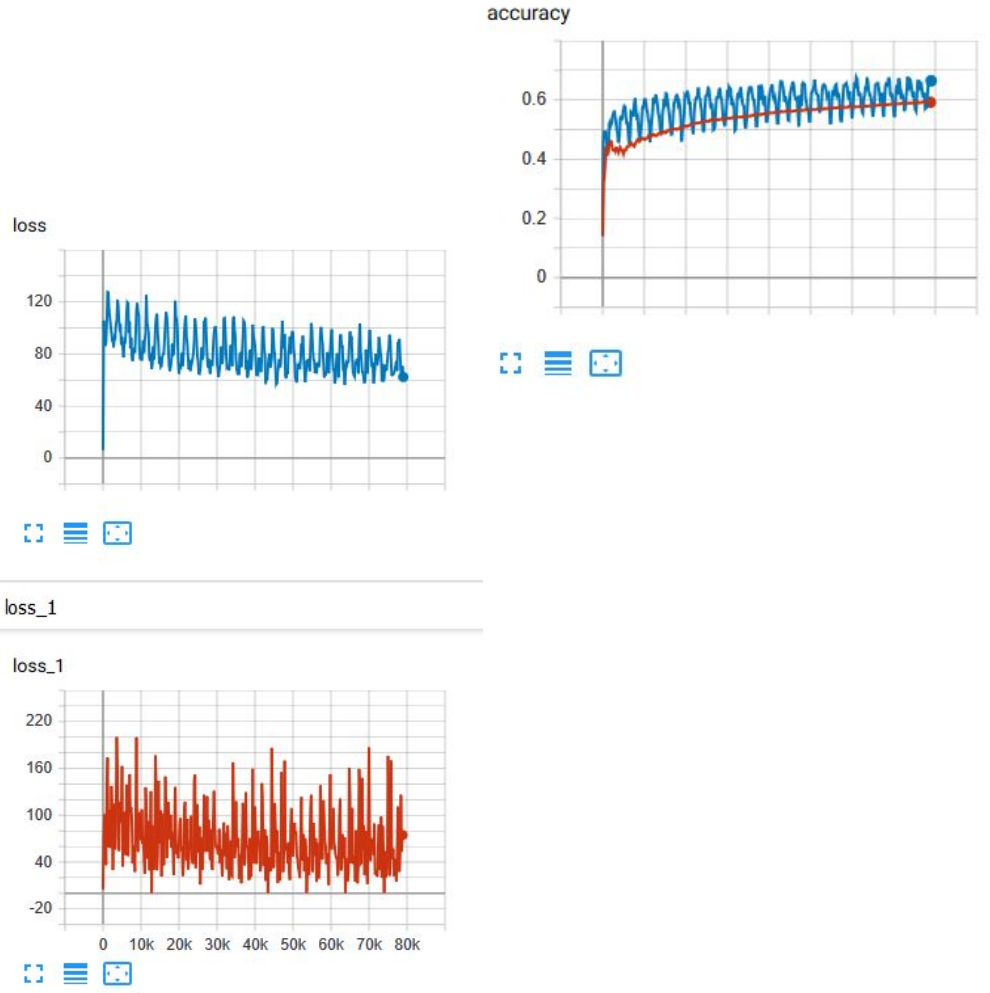
NDA: (training confon 1-4, 2-4)

```
Train confusion matrix
[[255   7   1  36  68  15  18]
 [  1 187  75  70 108   8  51]
 [  0   8 129  15 139   4   7]
 [  1   2   0 465  19   7   6]
 [  1   2   1   7 384  59  46]
 [  1   0   0   3   9 474  13]
 [  1   0   2   6  10   1 480]]

Train corrects per class: [255 187 129 465 384 474 480]
% correct classifications: 74.14116177389131

Test confusion matrix
[[242   1   0  85  56  12   4]
 [  8 159  73  31 187   3  39]
 [  2   3  27   1  19   0   0]
 [ 19  34   1 307  78  31  30]
 [  7   8   3   3 467   6   6]
 [ 13   6   2   2  48 385  44]
 [  5  34   0  14  61  11 375]]

Test corrects per class: [242 159  27 307 467 385 375]
% correct classifications: 66.46341463414635
```



DA: (training confon 1-2)

```
Train confusion matrix
[[388   2   0   4   4   2   0]
 [  4 457   7   3  11   8  10]
 [  1 114 118   1  44   1  23]
 [ 24  30   1 422  11   9   3]
 [ 26  49   6   0 276  77  66]
 [ 13   1   2   1   0 474   9]
 [  9  49   1   0   2   6 433]]

Train corrects per class: [388 457 118 422 276 474 433]
% correct classifications: 80.1998750780762

Test confusion matrix
[[391   3   0   3   2   1   0]
 [ 34 414   9   2  18   6  17]
 [  6  19  17   1   4   5   0]
 [107  87   1 226  26  37  16]
 [ 71  70  14   1 259  60  25]
 [ 24  40   1   0   1 410  24]
 [ 42  88   0   1  14  48 307]]

Test corrects per class: [391 414  17 226 259 410 307]
% correct classifications: 68.56368563685636
```