

# airplane

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/airplane")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 8.32116817e-06
 0.00000000e+00 7.72659932e-06]
self.alpha
[0.01305255 0.01981704 0.01571794 0.05085487 0.01687628 0.05617046]
self.alpha_max
[0.18646504 0.66056785 0.14289037 0.72638759 0.15342075 0.8023325 ]
self.r_minus_w_max
[469. 322. 379. 367. 475. 549.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```

# automobile

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/automobile")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 6.55904065e-08
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.01314926 0.02198806 0.02168306 0.04857435 0.01475052 0.05128674]
self.alpha_max
[0.14610286 0.36646769 0.14455372 0.44158451 0.16389467 0.56985265]
self.r_minus_w_max
[273. 205. 264. 295. 370. 432.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```

# bird

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/bird")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 1.97783829e-05
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.08496195 0.44803977 0.06230351 0.01360881 0.00129065 0.01511483]
self.alpha_max
[0.17700406 0.60545915 0.13845224 0.67947148 0.12906473 0.75574168]
self.r_minus_w_max
[ 5.  5.  6. 18. 29. 46.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```

cat

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/cat")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 6.00734537e-05
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.0152945  0.02157795 0.01955286 0.05535456 0.01026418 0.04603846]
self.alpha_max
[0.15294497 0.43155892 0.13035243 0.50273722 0.14663109 0.57548076]
self.r_minus_w_max
[152. 110. 173. 194. 176. 249.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```

deer

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/dog")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.          0.          0.          0.00012628 0.          0.          ]
self.alpha
[0.01643133 0.03409897 0.02135184 0.06750722 0.01710779 0.05533891]
self.alpha_max
[0.16431334 0.3788775 0.15251312 0.44933258 0.19008658 0.55338911]
self.r_minus_w_max
[337. 211. 312. 259. 298. 357.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()

[ ]: # fmd_old.show_layer_infos()
```

# dog

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/dog")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 8.48491231e-07
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.01623662 0.03996029 0.01781171 0.04214499 0.01250249 0.05329619]
self.alpha_max
[0.16236617 0.44400321 0.13701315 0.52680265 0.17860703 0.59217986]
self.r_minus_w_max
[383. 261. 330. 398. 353. 392.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```

# frog

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/frog")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.01771702 0.0206313 0.0113341 0.03509723 0.00424718 0.07506163]
self.alpha_max
[0.1476418 0.4126259 0.16191567 0.50138893 0.14157277 0.57739715]
self.r_minus_w_max
[413. 279. 385. 354. 387. 476.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()

[ ]: # fmd_old.show_layer_infos()
```

# horse

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/horse")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 9.57301307e-05
 0.00000000e+00 3.96501541e-06]
self.alpha
[0.02096128 0.03493077 0.01996048 0.04552297 0.01460602 0.03425198]
self.alpha_max
[0.14972346 0.4366346 0.12475298 0.50484285 0.16228908 0.57080421]
self.r_minus_w_max
[402. 267. 457. 421. 424. 572.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()
```



# ship

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/ship")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.0108631  0.01253044 0.01007228 0.04799446 0.01329501 0.05299908]
self.alpha_max
[0.18105172 0.6265221  0.14388978 0.68563517 0.1899287  0.75712973]
self.r_minus_w_max
[351. 283. 350. 348. 422. 527.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()

[ ]: # fmd_old.show_layer_infos()
```

# truck

August 12, 2022

## 1 FMD

```
[ ]: from FMD_old import FMD as FMD_old

fmd_old = FMD_old("/Volumes/My Passport_ssd_sg3/data_sets/cifar10/truck")

[ ]: fmd_old.fit()
```

## 2

```
[ ]: fmd_old.eval()
```

## 3 FMD

```
[ ]: # fmd_old.show_data_infos()

[ ]: # fmd_old.show_FM_repres()

[ ]: fmd_old.show_AMs_and_related()

self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.01392354 0.02028127 0.02060586 0.06748782 0.01986136 0.08789077]
self.alpha_max
[0.15470598 0.50703183 0.14718473 0.5623985 0.18055781 0.62779124]
self.r_minus_w_max
[298. 259. 362. 376. 440. 587.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']

[ ]: # fmd_old.show_dirs()

[ ]: # fmd_old.show_layer_infos()
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 8.32116817e-06
 0.00000000e+00 7.72659932e-06]
self.alpha
[0.01305255 0.01981704 0.01571794 0.05085487 0.01687628 0.05617046]
self.alpha_max
[0.18646504 0.66056785 0.14289037 0.72638759 0.15342075 0.8023325 ]
self.r_minus_w_max
[469. 322. 379. 367. 475. 549.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 6.00734537e-05
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.0152945 0.02157795 0.01955286 0.05535456 0.01026418 0.04603846]
self.alpha_max
[0.15294497 0.43155892 0.13035243 0.50273722 0.14663109 0.57548076]
self.r_minus_w_max
[152. 110. 173. 194. 176. 249.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.01771702 0.0206313 0.0113341 0.03509723 0.00424718 0.07506163]
self.alpha_max
[0.1476418 0.4126259 0.16191567 0.50138893 0.14157277 0.57739715]
self.r_minus_w_max
[413. 279. 385. 354. 387. 476.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.01392354 0.02028127 0.02060586 0.06748782 0.01986136 0.08789077]
self.alpha_max
[0.15470598 0.50703183 0.14718473 0.5623985 0.18055781 0.62779124]
self.r_minus_w_max
[298. 259. 362. 376. 440. 587.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 6.55904065e-08
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.01314926 0.02198806 0.02168306 0.04857435 0.01475052 0.05128674]
self.alpha_max
[0.14610286 0.36646769 0.14455372 0.44158451 0.16389467 0.56985265]
self.r_minus_w_max
[273. 205. 264. 295. 370. 432.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0.00012628 0. 0.]
self.alpha
[0.01643133 0.03409897 0.02135184 0.06750722 0.01710779 0.05533891]
self.alpha_max
[0.16431334 0.3788775 0.15251312 0.44933258 0.19008658 0.55338911]
self.r_minus_w_max
[337. 211. 312. 259. 298. 357.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 9.57301307e-05
 0.00000000e+00 3.96501541e-06]
self.alpha
[0.02096128 0.03493077 0.01996048 0.04552297 0.01460602 0.03425198]
self.alpha_max
[0.14972346 0.4366346 0.12475298 0.50484285 0.16228908 0.57080421]
self.r_minus_w_max
[402. 267. 457. 421. 424. 572.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 1.97783829e-05
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.08496195 0.44803977 0.06230351 0.01360881 0.00129065 0.01511483]
self.alpha_max
[0.17700406 0.60545915 0.13845224 0.67947148 0.12906473 0.75574168]
self.r_minus_w_max
[ 5.  5.  6. 18. 29. 46.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0.00000000e+00 0.00000000e+00 0.00000000e+00 8.48491231e-07
 0.00000000e+00 0.00000000e+00]
self.alpha
[0.01623662 0.03996029 0.01781171 0.04214499 0.01250249 0.05329619]
self.alpha_max
[0.16236617 0.44400321 0.13701315 0.52680265 0.17860703 0.59217986]
self.r_minus_w_max
[383. 261. 330. 398. 353. 392.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```

```
self.alpha_slice
[100, 100, 100, 100, 100, 100]
self.alpha_min
[0. 0. 0. 0. 0. 0.]
self.alpha
[0.0108631 0.01253044 0.01007228 0.04799446 0.01329501 0.05299908]
self.alpha_max
[0.18105172 0.6265221 0.14388978 0.68563517 0.1899287 0.75712973]
self.r_minus_w_max
[351. 283. 350. 348. 422. 527.]
self.DAM_select
['and', 'and', 'and', 'and', 'and', 'and']
```