

2023-08-28

날짜: 이동 평균 고정, batch:1024, learning_rate고정

1. 파생변수: 대분류, 중분류

epoch: 10

```
-----  
Epoch 1/10  
2334/2334 [=====] - 71s 26ms/step - loss: 0.0226 - val_loss: 0.0197  
Epoch 2/10  
2334/2334 [=====] - 62s 27ms/step - loss: 0.0203 - val_loss: 0.0194  
Epoch 3/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0200 - val_loss: 0.0191  
Epoch 4/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0197 - val_loss: 0.0190  
Epoch 5/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0196 - val_loss: 0.0190  
Epoch 6/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0195 - val_loss: 0.0189  
Epoch 7/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0194 - val_loss: 0.0188  
Epoch 8/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0193 - val_loss: 0.0187  
Epoch 9/10  
2334/2334 [=====] - 63s 27ms/step - loss: 0.0193 - val_loss: 0.0187  
Epoch 10/10  
18671/18671 [=====] - 55s 3ms/step  
Validation PSFA at end of epoch 10: 0.6455  
2334/2334 [=====] - 132s 57ms/step - loss: 0.0192 - val_loss: 0.0187  
497/497 [=====] - 2s 3ms/step  
-----
```

epoch: 20

```

2334/2334 [=====] - 63s 27ms/step - loss: 0.0191 - val_loss: 0.0186
Epoch 14/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0190 - val_loss: 0.0186
Epoch 15/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0190 - val_loss: 0.0186
Epoch 16/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0190 - val_loss: 0.0187
Epoch 17/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0189 - val_loss: 0.0186
Epoch 18/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0189 - val_loss: 0.0186
Epoch 19/20
2334/2334 [=====] - 63s 27ms/step - loss: 0.0189 - val_loss: 0.0186
Epoch 20/20
18671/18671 [=====] - 55s 3ms/step
Validation PSFA at end of epoch 20: 0.6364
2334/2334 [=====] - 132s 56ms/step - loss: 0.0188 - val_loss: 0.0187
497/497 [=====] - 2s 3ms/step

```

2. 파생변수: 대분류, 중분류, 일 가격 평균- sub_12

epoch: 10

```

=====
Total params: 94,229
Trainable params: 94,229
Non-trainable params: 0
=====
Epoch 1/10
2347/2347 [=====] - 67s 27ms/step - loss: 0.0226 - val_loss: 0.0196
Epoch 2/10
2347/2347 [=====] - 63s 27ms/step - loss: 0.0202 - val_loss: 0.0192
Epoch 3/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0199 - val_loss: 0.0190
Epoch 4/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0196 - val_loss: 0.0189
Epoch 5/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0195 - val_loss: 0.0188
Epoch 6/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0194 - val_loss: 0.0188
Epoch 7/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0193 - val_loss: 0.0187
Epoch 8/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0192 - val_loss: 0.0187
Epoch 9/10
2347/2347 [=====] - 64s 27ms/step - loss: 0.0192 - val_loss: 0.0186
Epoch 10/10
18771/18771 [=====] - 55s 3ms/step
Validation PSFA at end of epoch 10: 0.6683
2347/2347 [=====] - 132s 56ms/step - loss: 0.0191 - val_loss: 0.0186
497/497 [=====] - 2s 3ms/step

```

3. 파생변수: 대분류, 중분류, 일 가격 평균,브랜드 평- sub_13

epoch:10, batchsize:2048로 늘림 → 너무 오래걸려서 기다리기 힘들

```

=====
Total params: 94,613
Trainable params: 94,613
Non-trainable params: 0
=====
Epoch 1/10
  5/1174 [.....] - ETA: 1:04 - loss: 0.0906WARNING:tensorflow:Callback method `on_train_batch_end`
1174/1174 [=====] - 61s 48ms/step - loss: 0.0245 - val_loss: 0.0201
Epoch 2/10
1174/1174 [=====] - 56s 48ms/step - loss: 0.0210 - val_loss: 0.0196
Epoch 3/10
1174/1174 [=====] - 57s 49ms/step - loss: 0.0205 - val_loss: 0.0196
Epoch 4/10
1174/1174 [=====] - 57s 48ms/step - loss: 0.0202 - val_loss: 0.0192
Epoch 5/10
1174/1174 [=====] - 57s 49ms/step - loss: 0.0200 - val_loss: 0.0192
Epoch 6/10
1174/1174 [=====] - 57s 49ms/step - loss: 0.0198 - val_loss: 0.0190
Epoch 7/10
1174/1174 [=====] - 58s 49ms/step - loss: 0.0196 - val_loss: 0.0190
Epoch 8/10
1174/1174 [=====] - 58s 49ms/step - loss: 0.0196 - val_loss: 0.0188
Epoch 9/10
1174/1174 [=====] - 58s 49ms/step - loss: 0.0195 - val_loss: 0.0188
Epoch 10/10
18771/18771 [=====] - 57s 3ms/step
Validation PSFA at end of epoch 10: 0.6713
1174/1174 [=====] - 128s 109ms/step - loss: 0.0194 - val_loss: 0.0188
497/497 [=====] - 2s 3ms/step

```

3. 파생변수: 계절 4개까지 더한 총 8개- sub_14

epoch:10

시스템 RAM

25.8 / 51.0 GB

GPU RAM

8.7 / 15.0 GB

Dacon_score: 0.5282904727

→ 그냥 이동 평균을 쓰면 안될듯..?

```

=====
Total params: 96,149
Trainable params: 96,149
Non-trainable params: 0
=====
Epoch 1/10
2372/2372 [=====] - 72s 28ms/step - loss: 0.0222 - val_loss: 0.0195
Epoch 2/10
2372/2372 [=====] - 66s 28ms/step - loss: 0.0199 - val_loss: 0.0189
Epoch 3/10
2372/2372 [=====] - 65s 28ms/step - loss: 0.0195 - val_loss: 0.0187
Epoch 4/10
2372/2372 [=====] - 65s 28ms/step - loss: 0.0192 - val_loss: 0.0185
Epoch 5/10
2372/2372 [=====] - 66s 28ms/step - loss: 0.0190 - val_loss: 0.0184
Epoch 6/10
2372/2372 [=====] - 65s 28ms/step - loss: 0.0189 - val_loss: 0.0184
Epoch 7/10
2372/2372 [=====] - 66s 28ms/step - loss: 0.0188 - val_loss: 0.0183
Epoch 8/10
2372/2372 [=====] - 65s 28ms/step - loss: 0.0187 - val_loss: 0.0182
Epoch 9/10
2372/2372 [=====] - 66s 28ms/step - loss: 0.0186 - val_loss: 0.0182
Epoch 10/10
18969/18969 [=====] - 56s 3ms/step
Validation PSFA at end of epoch 10: 0.6767
2372/2372 [=====] - 136s 57ms/step - loss: 0.0186 - val_loss: 0.0182
497/497 [=====] - 2s 3ms/step

```

3. 파생변수: 계절 4개까지 더한 총 8개+토,일- sub_15

epoch:10

시스템 RAM

31.0 / 51.0 GB

GPU RAM

14.1 / 15.0 GB

```

-----
Epoch 1/10
2384/2384 [=====] - 75s 28ms/step - loss: 0.0220 - val_loss: 0.0191
Epoch 2/10
2384/2384 [=====] - 64s 27ms/step - loss: 0.0198 - val_loss: 0.0188
Epoch 3/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0194 - val_loss: 0.0185
Epoch 4/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0191 - val_loss: 0.0184
Epoch 5/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0190 - val_loss: 0.0184
Epoch 6/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0188 - val_loss: 0.0182
Epoch 7/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0187 - val_loss: 0.0182
Epoch 8/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0186 - val_loss: 0.0181
Epoch 9/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0186 - val_loss: 0.0181
Epoch 10/10
19068/19068 [=====] - 56s 3ms/step
Validation PSFA at end of epoch 10: 0.6739
2384/2384 [=====] - 136s 57ms/step - loss: 0.0185 - val_loss: 0.0181
497/497 [=====] - 2s 3ms/step

```

성능 개선이 없음.

→ 스케일러를 min-max에서 로버스트로 다 바꿔봄 - sub-16

```

Epoch 1/10
2384/2384 [=====] - 71s 28ms/step - loss: 0.0233 - val_loss: 0.0198
Epoch 2/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0204 - val_loss: 0.0192
Epoch 3/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0198 - val_loss: 0.0189
Epoch 4/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0194 - val_loss: 0.0185
Epoch 5/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0191 - val_loss: 0.0184
Epoch 6/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0189 - val_loss: 0.0182
Epoch 7/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0187 - val_loss: 0.0182
Epoch 8/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0185 - val_loss: 0.0181
Epoch 9/10
2384/2384 [=====] - 65s 27ms/step - loss: 0.0184 - val_loss: 0.0180
Epoch 10/10
19068/19068 [=====] - 56s 3ms/step
Validation PSFA at end of epoch 10: 0.6710
2384/2384 [=====] - 137s 57ms/step - loss: 0.0183 - val_loss: 0.0180
497/497 [=====] - 2s 3ms/step

```

4. 파생변수: 계절 4개까지 더한 총 8개+소분류- sub_17

epoch:10

스케일링 전부 min-max

gru (GRU)	(None, 60, 128)	53760
gru_1 (GRU)	(None, 64)	37248
dense (Dense)	(None, 64)	4160
dropout (Dropout)	(None, 64)	0
dense_1 (Dense)	(None, 21)	1365
Total params: 96,533		
Trainable params: 96,533		
Non-trainable params: 0		
Epoch 1/10		
2384/2384 [=====] - 72s 28ms/step - loss: 0.0232 - val_loss: 0.0196		
Epoch 2/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0203 - val_loss: 0.0191		
Epoch 3/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0199 - val_loss: 0.0188		
Epoch 4/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0196 - val_loss: 0.0186		
Epoch 5/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0193 - val_loss: 0.0184		
Epoch 6/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0192 - val_loss: 0.0183		
Epoch 7/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0190 - val_loss: 0.0184		
Epoch 8/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0189 - val_loss: 0.0182		
Epoch 9/10		
2384/2384 [=====] - 65s 27ms/step - loss: 0.0189 - val_loss: 0.0182		
Epoch 10/10		
19068/19068 [=====] - 55s 3ms/step		
Validation PSFA at end of epoch 10: 0.6704		
2384/2384 [=====] - 136s 57ms/step - loss: 0.0188 - val_loss: 0.0182		
497/497 [=====] - 2s 3ms/step		

5. 파생변수: 계절 4개까지 더한 총 8개- sub_18

epoch:10

train_window_size: 90 으로 늘려봄

시스템 RAM

33.8 / 51.0 GB

GPU RAM

14.1 / 15.0 GB

```

-----
Epoch 1/10
2185/2185 [=====] - 94s 41ms/step - loss: 0.0221 - val_loss: 0.0191
Epoch 2/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0196 - val_loss: 0.0187
Epoch 3/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0192 - val_loss: 0.0183
Epoch 4/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0189 - val_loss: 0.0181
Epoch 5/10
2185/2185 [=====] - 87s 40ms/step - loss: 0.0186 - val_loss: 0.0180
Epoch 6/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0185 - val_loss: 0.0179
Epoch 7/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0184 - val_loss: 0.0178
Epoch 8/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0183 - val_loss: 0.0178
Epoch 9/10
2185/2185 [=====] - 86s 39ms/step - loss: 0.0182 - val_loss: 0.0178
Epoch 10/10
17479/17479 [=====] - 60s 3ms/step
Validation PSFA at end of epoch 10: 0.6619
2185/2185 [=====] - 161s 74ms/step - loss: 0.0182 - val_loss: 0.0178
497/497 [=====] - 2s 4ms/step

```

train_window_size는 늘리면 val_loss가 확실히 줄어드는데 psfa스코어가 낮아짐

지금까지 해본걸로 제출했는데 아직도 dacon_score:0.57을 벗어나지못함.

그냥 이동평균을 쓰면 안될듯

6. 파생변수: 계절 4개까지 더한 총 8개, 이동 평균 없앴

하지만 psfa점수 0.57대나옴..

대부분 15~16분 정도 소요됨. 대용량 램 필요할

해보고싶은 것

1. 스케일링 바꿔보기
2. 주말 이틀을 그냥 한 열로 합치기?
3. 모델을 조금 더 건드려서 val_loss 낮추기
4. epochs 늘려보기
5. learning rate 조정해보기