

PLASS-NIA 인공지능학습데이터구축사업 (2021)

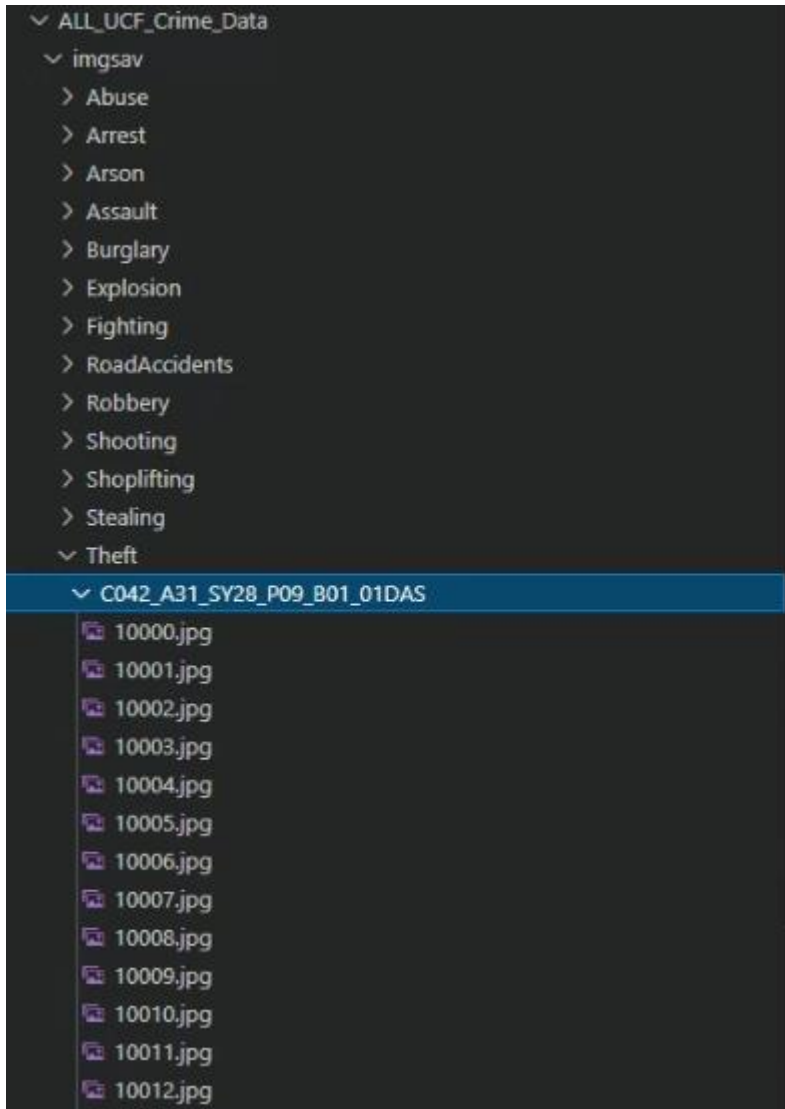
4팀(김도현, 전은성)

목차

1. ALL-UCF-Crime(+절도) 학습데이터 변경
2. 모델학습(epoch 10)
3. 모델 테스트
4. 향후 계획



1. ALL_UCF-Crime(+절도) 학습데이터 변경

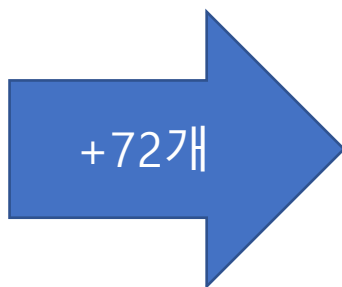


- 절도 영상에서 이미지를 추출
- 해당 이미지를 데이터셋에 추가

1. ALL_UCF-Crime(+ 절도) 학습데이터 변경

```
375 RoadAccidents/RoadAccidents079_x264 7
376 RoadAccidents/RoadAccidents080_x264 7
377 RoadAccidents/RoadAccidents081_x264 7
378 RoadAccidents/RoadAccidents082_x264 7
379 RoadAccidents/RoadAccidents083_x264 7
380 RoadAccidents/RoadAccidents084_x264 7
381 RoadAccidents/RoadAccidents085_x264 7
382 RoadAccidents/RoadAccidents086_x264 7
383 RoadAccidents/RoadAccidents087_x264 7
384 RoadAccidents/RoadAccidents088_x264 7
385 RoadAccidents/RoadAccidents089_x264 7
386 RoadAccidents/RoadAccidents090_x264 7
387 RoadAccidents/RoadAccidents091_x264 7
388 RoadAccidents/RoadAccidents092_x264 7
389 RoadAccidents/RoadAccidents093_x264 7
390 RoadAccidents/RoadAccidents094_x264 7
391 RoadAccidents/RoadAccidents095_x264 7
392 RoadAccidents/RoadAccidents096_x264 7
393 RoadAccidents/RoadAccidents097_x264 7
394 RoadAccidents/RoadAccidents098_x264 7
395 RoadAccidents/RoadAccidents099_x264 7
396 RoadAccidents/RoadAccidents100_x264 7
397 RoadAccidents/RoadAccidents101_x264 7
398 RoadAccidents/RoadAccidents102_x264 7
399 RoadAccidents/RoadAccidents103_x264 7
400 RoadAccidents/RoadAccidents104_x264 7
401 RoadAccidents/RoadAccidents105_x264 7
```

trainlist.txt (707개)



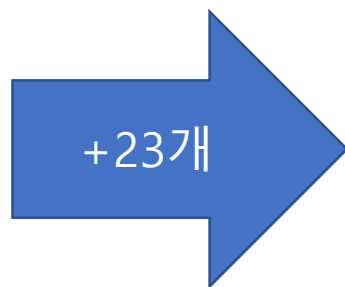
```
659 Stealing/Stealing074_x264 11
660 Stealing/Stealing075_x264 11
661 Stealing/Stealing077_x264 11
662 Stealing/Stealing078_x264 11
663 Stealing/Stealing079_x264 11
664 Stealing/Stealing080_x264 11
665 Stealing/Stealing081_x264 11
666 Stealing/Stealing082_x264 11
667 Stealing/Stealing083_x264 11
668 Stealing/Stealing084_x264 11
669 Stealing/Stealing086_x264 11
670 Stealing/Stealing087_x264 11
671 Theft/C042_A31_SY28_P09_B01_01DAS 12
672 Theft/C042_A31_SY28_P09_B01_01DBS 12
673 Theft/C042_A31_SY28_P09_B01_02DAS 12
674 Theft/C042_A31_SY28_P09_B01_02DBS 12
675 Theft/C042_A31_SY28_P09_B01_03DAS 12
676 Theft/C042_A31_SY28_P09_B01_03DBS 12
677 Theft/C042_A31_SY28_P09_B01_04DAS 12
678 Theft/C042_A31_SY28_P09_B01_04DBS 12
679 Theft/C042_A31_SY28_P09_B01_05DAS 12
680 Theft/C042_A31_SY28_P09_B01_05DBS 12
681 Theft/C042_A31_SY28_P09_B02_01DAS 12
682 Theft/C042_A31_SY28_P09_B02_01DBS 12
683 Theft/C042_A31_SY28_P09_B03_02DAS 12
684 Theft/C042_A31_SY28_P09_B03_02DBS 12
685 Theft/C042_A31_SY28_P09_B03_03DAS 12
686 Theft/C042_A31_SY28_P09_B03_03DBS 12
687 Theft/C042_A31_SY28_P09_B03_04DAS 12
688 Theft/C042_A31_SY28_P09_B03_04DBS 12
689 Theft/C042_A31_SY28_P09_B03_05DAS 12
```

trainlist.txt (779개)

1. ALL_UCF-Crime(+절도) 학습데이터 변경

```
1 Abuse/Abuse038_x264 0
2 Abuse/Abuse039_x264 0
3 Abuse/Abuse040_x264 0
4 Abuse/Abuse041_x264 0
5 Abuse/Abuse042_x264 0
6 Abuse/Abuse043_x264 0
7 Abuse/Abuse044_x264 0
8 Abuse/Abuse045_x264 0
9 Abuse/Abuse046_x264 0
10 Abuse/Abuse047_x264 0
11 Abuse/Abuse048_x264 0
12 Abuse/Abuse049_x264 0
13 Abuse/Abuse050_x264 0
14 Arrest/Arrest038_x264 1
15 Arrest/Arrest039_x264 1
16 Arrest/Arrest040_x264 1
17 Arrest/Arrest041_x264 1
18 Arrest/Arrest042_x264 1
19 Arrest/Arrest043_x264 1
20 Arrest/Arrest044_x264 1
21 Arrest/Arrest046_x264 1
22 Arrest/Arrest047_x264 1
23 Arrest/Arrest048_x264 1
24 Arrest/Arrest049_x264 1
25 Arrest/Arrest050_x264 1
26 Arrest/Arrest051_x264 1
27 Arrest/Arrest052_x264 1
```

testlist.txt (243개)



```
228 Stealing/Stealing112_x264 11
229 Stealing/Stealing113_x264 11
230 Stealing/Stealing114_x264 11
231 Theft/C042_A31_SY30_P09_B01_01DAS 12
232 Theft/C042_A31_SY30_P09_B01_01DBS 12
233 Theft/C042_A31_SY30_P09_B01_03DAS 12
234 Theft/C042_A31_SY30_P09_B01_03DBS 12
235 Theft/C042_A31_SY30_P09_B03_01DAS 12
236 Theft/C042_A31_SY30_P09_B03_01DBS 12
237 Theft/C042_A31_SY30_P09_B03_02DAS 12
238 Theft/C042_A31_SY30_P09_B03_02DBS 12
239 Theft/C042_A31_SY30_P09_B03_03DAS 12
240 Theft/C042_A31_SY30_P09_B03_03DBS 12
241 Theft/C042_A31_SY30_P09_B04_02DAS 12
242 Theft/C042_A31_SY30_P09_B04_02DBS 12
243 Theft/C042_A31_SY30_P09_B05_01DAS 12
244 Theft/C042_A31_SY30_P09_B05_01DBS 12
245 Theft/C042_A31_SY30_P09_B05_02DAS 12
246 Theft/C042_A31_SY30_P09_B05_02DBS 12
247 Theft/C042_A31_SY30_P09_B05_03DAS 12
248 Theft/C042_A31_SY30_P09_B05_03DBS 12
249 Theft/C042_A31_SY30_P09_B06_01DAS 12
250 Theft/C042_A31_SY30_P09_B06_01DBS 12
251 Theft/C042_A31_SY30_P09_B06_02DAS 12
252 Theft/C042_A31_SY30_P09_B06_11DBS 12
253 Theft/C042_A31_SY30_P09_B06_12DAS 12
254 Theft/C042_A31_SY30_P09_B06_12DBS 12
255 Vandalism/Vandalism038_x264 13
256 Vandalism/Vandalism039_x264 13
257 Vandalism/Vandalism040_x264 13
```

testlist.txt (267개)

1. ALL_UCF-Crime(+ 절도) 학습데이터 변경

```
1 0 Abuse
2 1 Arrest
3 2 Arson
4 3 Assault
5 4 Burglary
6 5 Explosion
7 6 Fighting
8 7 RoadAccidents
9 8 Robbery
10 9 Shooting
11 10 Shoplifting
12 11 Stealing
13 12 Vandalism
```

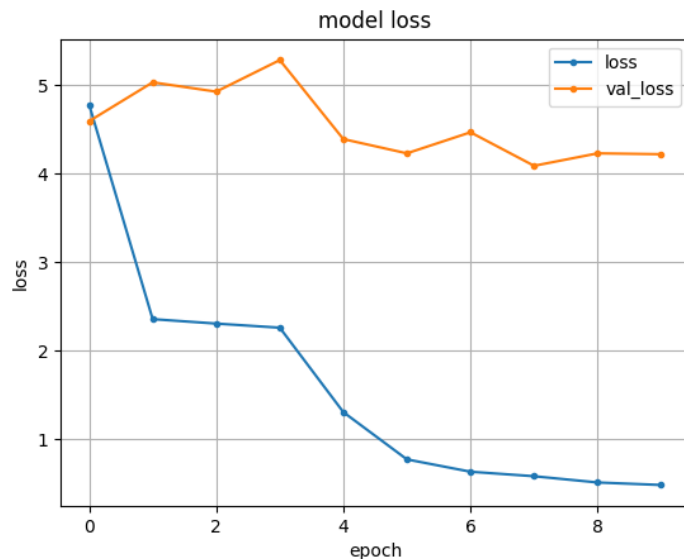
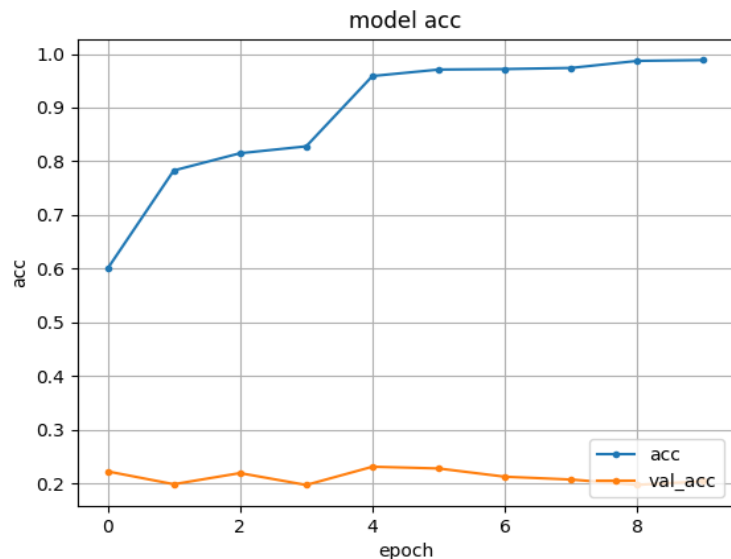
Index.txt (13개)



```
1 0 Abuse
2 1 Arrest
3 2 Arson
4 3 Assault
5 4 Burglary
6 5 Explosion
7 6 Fighting
8 7 RoadAccidents
9 8 Robbery
10 9 Shooting
11 10 Shoplifting
12 11 Stealing
13 12 Theft
14 13 Vandalism
```

Index.txt (14개)

2. 모델 학습 (epoch 10)



epoch	loss	acc	val_loss	val_acc
0	4.783584249421648	0.5997869318181818	4.594958431966677	0.22205306079220505
1	2.357026835406456	0.7828422837243402	5.0343858760384474	0.19813069264986233
2	2.3067998712516427	0.8149571572580645	4.92894981402862	0.21886252912518533
3	2.2603926903341525	0.8278558009530792	5.285901773331958	0.19670091082397798
4	1.3055786226501913	0.9588870051319648	4.392432348249929	0.2307244227917814
5	0.7712135771043664	0.9709207752932552	4.231585957089412	0.22745445880110146
6	0.6319046122652869	0.9718486528592375	4.46956240486932	0.21209754289345478
7	0.5808950498224922	0.973967879398827	4.090740765890967	0.2068417708112688
8	0.5102696083677261	0.9871128115835777	4.231541524370756	0.19699216267739886
9	0.48200019617780737	0.9885905425219942	4.221725704709849	0.2037439101885194

3. 모델 테스트 (절도)



C042_A31_SY30_P09_B05_03DBS.avi

- 초반 영상 정확도: 0.7~0.8
- 중반 영상 정확도: 1.0
- 후반 영상 정확도: 0.9 이상

3. 모델 테스트 (절도)



C042_A31_SY30_P09_B04_02DBS.avi

- 절도 장면 X
- 영상 전체 정확도: 0.9 이상

3. 모델 테스트 (그 외)



RoadAccidents148_x264.avi

- RoadAccident 잠깐 판별
- 정확도는 약 0.24
- 대부분 다른 분야 판별

3. 모델 테스트 (그 외)



Shoplifting042_x264.avi

- 아예 판별 불가

4. 향후 계획

- 모델 테스트 정확도 개선
- 개선 사항 수정
- 테스트 결과 확인

감사합니다

4팀(김도현, 전은성)