

I 팀 소개



최우혁
—
팀장



이호은
—
팀원



옥현종
—
팀원

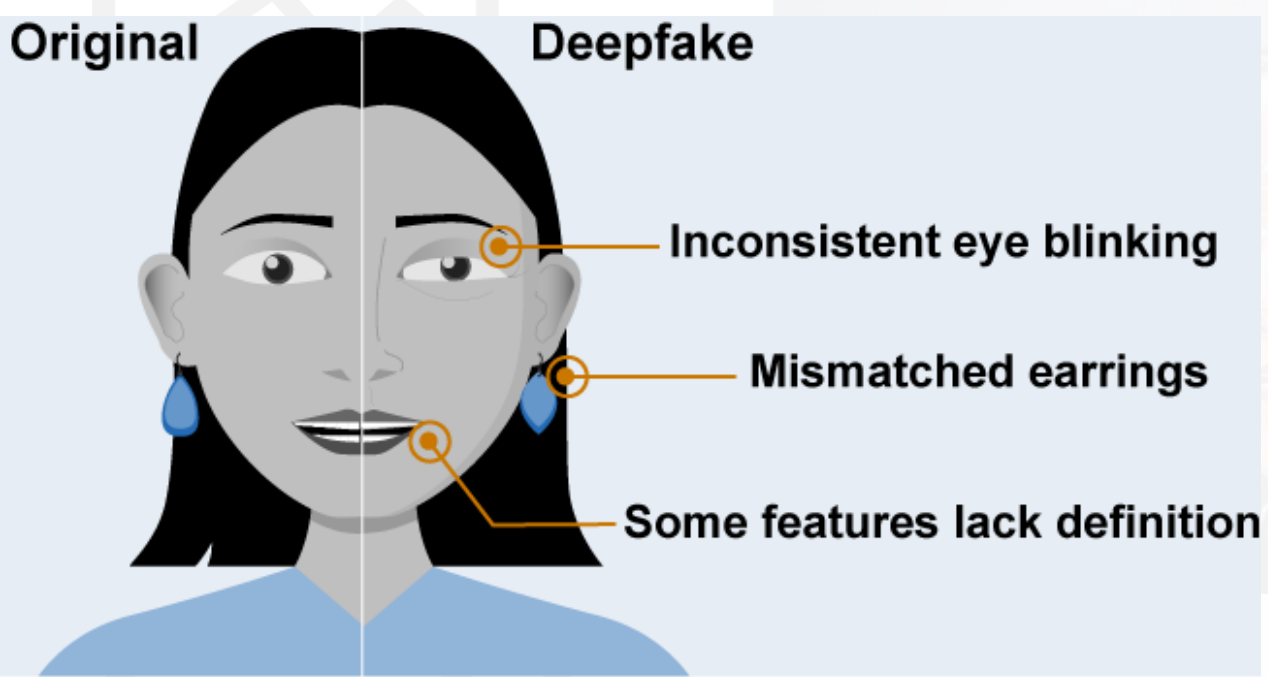


박정우
—
팀원

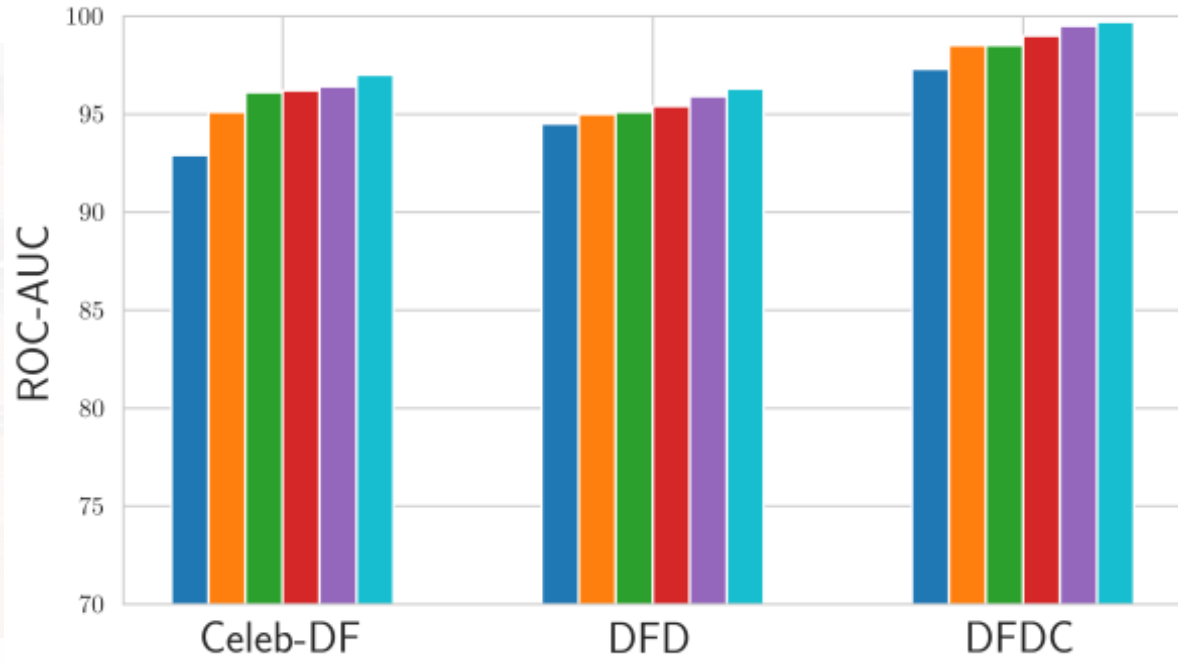
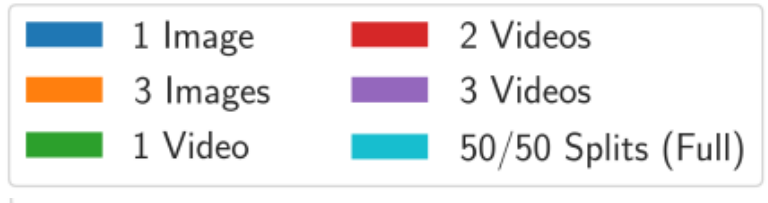
II 발표 내용_ [평가 항목] 문제 이해도



Features of Deepfake



Source : GAO



Even a **single image** reference set results in performance close to the full set performance

Reiss, T., Cavia, B., & Hoshen, Y. (2023). Detecting Deepfakes Without Seeing Any. arXiv preprint arXiv.

Video Task

II 발표 내용_ [평가 항목] 데이터 활용



Video



Frame
Extraction



CenterCrop
(299 × 299)



Random
HorizontalFlip



Normalize



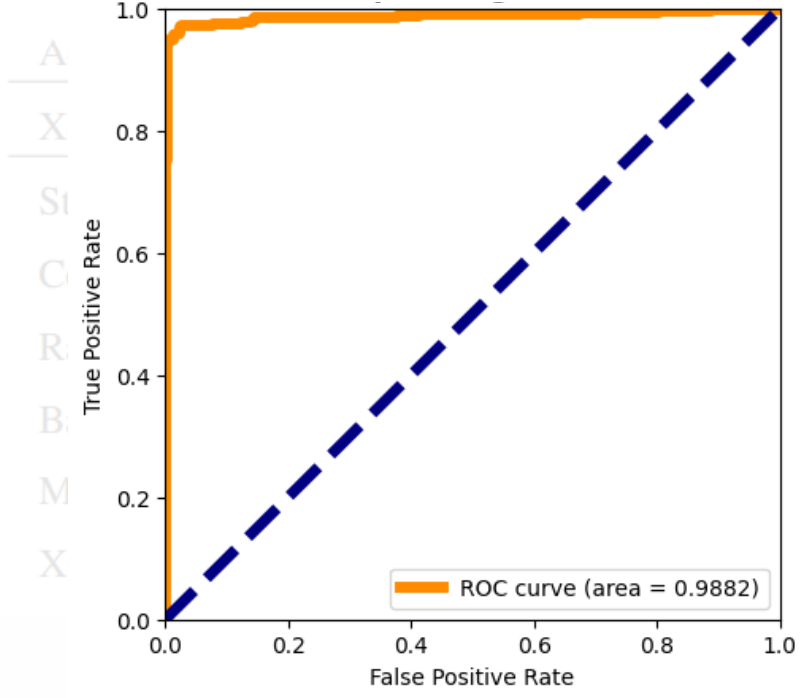
Input

Xception
Model

II 발표 내용_ [평가 항목] 모델 완성도



Results of detection method
Xception 1의 ROC 곡선



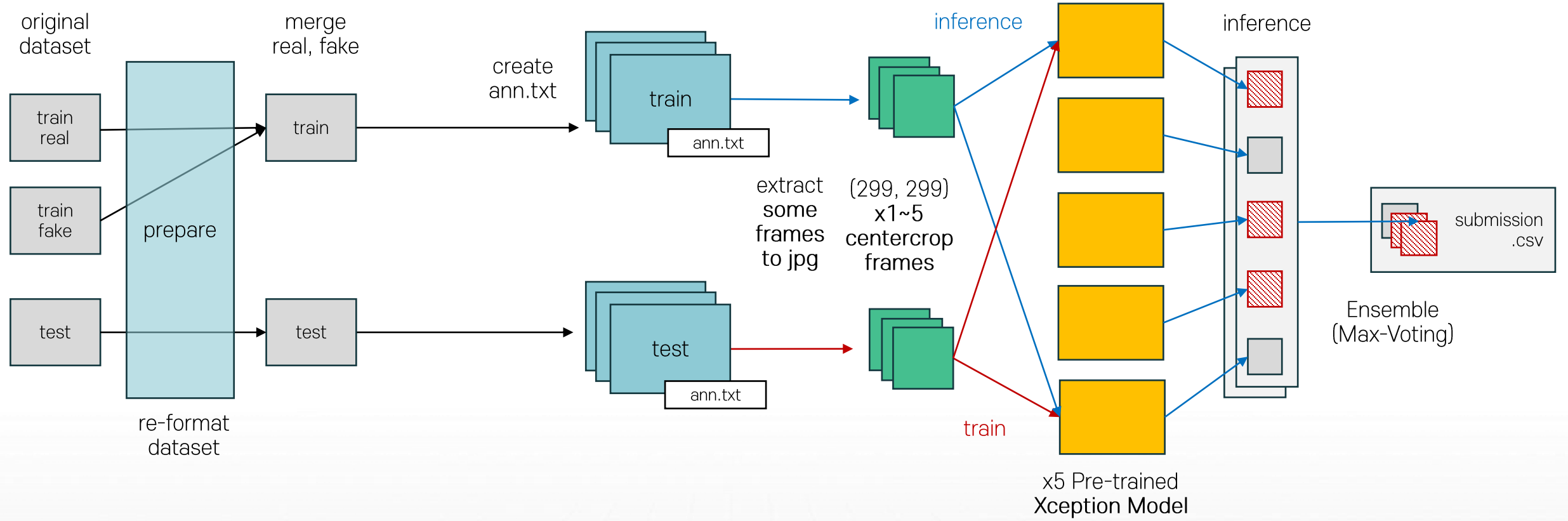
Area=0.9882

Detection accuracy of architectures
on the different manipulation methods

	Xception 1	Xception 2	Xception 3	Xception 4	Xception 5
Train frame samples	1	1	5	5	3
Test frame samples	1	1	5	3	3
Learning rate	1e-4	1e-3	1e-4	1e-4	1e-4
Learning scheduler	StepLR	StepLR	Exponential scheduler	Exponential scheduler	StepLR
Batch size	32	32	32	32	32
Test accuracy	0.9660	0.9500	0.9650	0.9680	0.9690

+ SVM et al. Stamm
■ Deepfakes ■ Face2Face ■ FaceSwap ■ NeuralTextures

II 발표 내용_ [평가 항목] 수행 프로세스



Pre-trained Xception Model Results					Ensemble Result
0.9660	0.9500	0.9650	0.9680	0.9690	0.9760

* Public Accuracy Score



2023 국방 AI 경진대회



Where AI & Defense Connect

소감 한마디

평소에 쉽게 접하기 어려운 딥페이크 데이터를 다룰 수 있는 좋은 경험이었습니다.
내년에도 꼭 다시 한번 참가하고 싶습니다.