Leveraging Adversarial Learning for the Detection of Morphing Attacks

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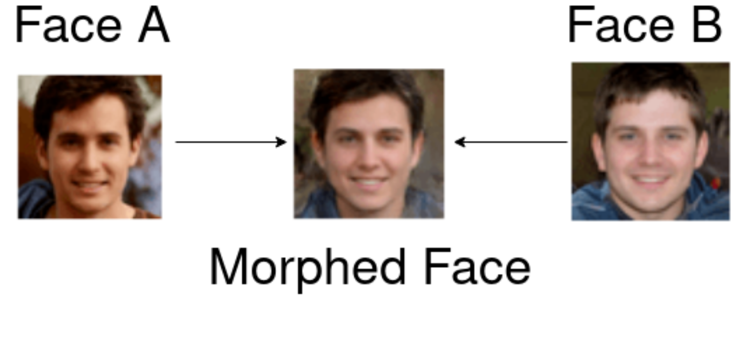
Problem



Problem

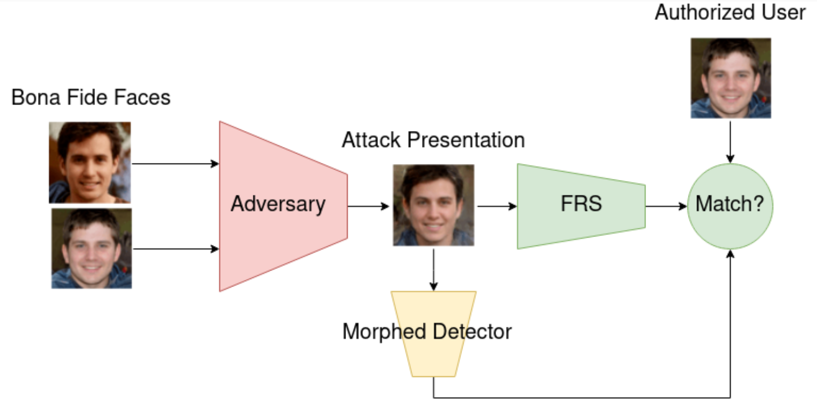
Morphed Attack poses great security concerns

Description

Fool FRS into accepting **two** identities as **one**

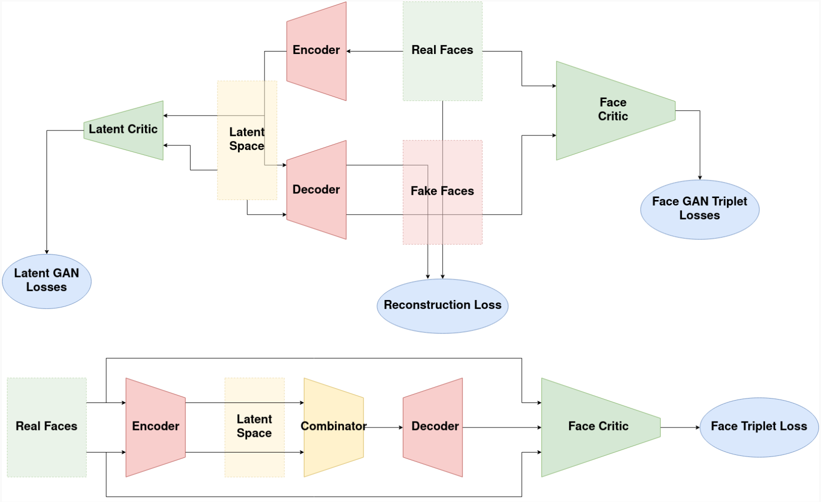
Leverage Adversarial Formulation

Adversarial Structure



Use GAN architecture to train detector

Proposed Architecture



Datasets

- FERET
- Face Research Lab London (FRLL)

Morphs

- StyleGAN2 (deep learning based)
- FaceMorpher (landmark based)
- OpenCV (landmark based)

Experiments

- Each permutation of training and testing, dataset and morph
- 36 unique experiments per detector repeated 10 times

Results

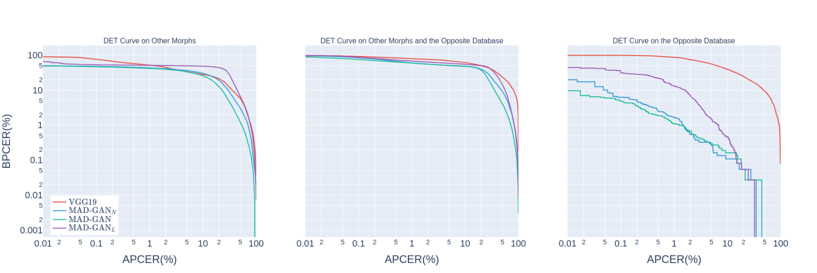


Figure 1: Summary DET curves.

Summary

- Created novel detection algorithm leveraging the adversarial structure
- Evaluated with extensive experiments using different combinations of morphs and experiments.