Applications

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Deep Fakes
Problem of Deep Fakes

A single model animates all images given only a single source image

Driving video
Problem of Deep Fakes
Problem of Deep Fakes

Body $\rightarrow$ Pose $\rightarrow$ Body Results

input  poses  output  input  poses  output  input  poses  output
Is there a Problem?

Yes! Simple tools allow people to edit videos photo-realistically!
How New is the Problem?

Not new…image manipulation is as old as photography
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How New is the Problem?

So not new...but simplicity is new
A Solution?

Deep fake detection tools need to be made simple!

Humans can detect 53.5% of manipulated images

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Detecting Deep Fakes

Training Data: use photoshopped Face-Aware Liquify tool

FaceForensics++

Uses Deep Fakes, Face2Face, FaceSwap and Neural Textures

Future of Deep Fake Detection

- Algorithm independent methods
- Image and video watermarking
- Algorithm + detection methods
- Liveliness detection