**A Hybrid Model for Identity Obfuscation by Face Replacement**

**Application -**

IN PAPER: 1) expression transfer - It is possible to take a photo of a person with a neutral expression and transfer a smile or frown from another photo to make the person appear happy or sad. It can be used in entertainment industry, virtual reality, Healthcare. 2) Visual Dubbing - It can be used in movies, journalism, Education and training, accessibiltiy- for deaf ppl. 3) Face reconstruction

**GAP-**

enough parameters not used like FID.

**Learning to Anonymize Faces for Privacy Preserving Action Detection**

**Application –**

In paper : 1) surveillaince cameras, 2) smart home cameras, 3) service robots at homes and public places, EXTRA: live shows broadcasting eg : sports - anonymize the faces of spectators or others who can be seen in the background of the video to safeguard their privacy. Wearable camera enabled devices - vloggers use it.

**Problem Solved -**

The authors main objective is to protect one's privacy in video surveillance footages where face detection and recognition are necessary. In such footages, it may be necessary to track and analyze people's actions for security, safety, or research purposes, but doing so can compromise their privacy. Therefore, the authors propose a method to automatically anonymize faces in video footage while still allowing for accurate action detection.aim to overcome the limitations of existing face anonymization methods, such as extreme downsampling or image masking, which can result in a loss of detail or interference with facial recognition tasks. They propose a new method that uses neural networks to detect and anonymize faces while preserving the overall structure and information content of the video footage.

**Challenges -**

It only focuses on face anonymization, and not other features such as body shape, clothes that need to be anonymized at time to protect privacy

**Face Image Anonymization as an application of Multidimensional Data K-Anonymizer:**

**Problem Solved -**

Only tested on celebA dataset, could have used other high dimensional datasets for evaluation purposes  
The authors of the paper have pointed out few existing problems in face anonymisation like unnatural edges and blurs on images.that happens due to the pixel by pixel comparison   
They have used an NN based architectural - Miku which is a direct anonymisation method that maintains quality and attributed of the original images.

**Gaps –**

1. dataset only evaluated on celebA could have used some other high dimensional images dataset  
2. unclear how well it would perform on more complex images or in scenarios where multiple individuals are present   
Future Scope  
MIKU can be applied to other high dimensional data such natural language