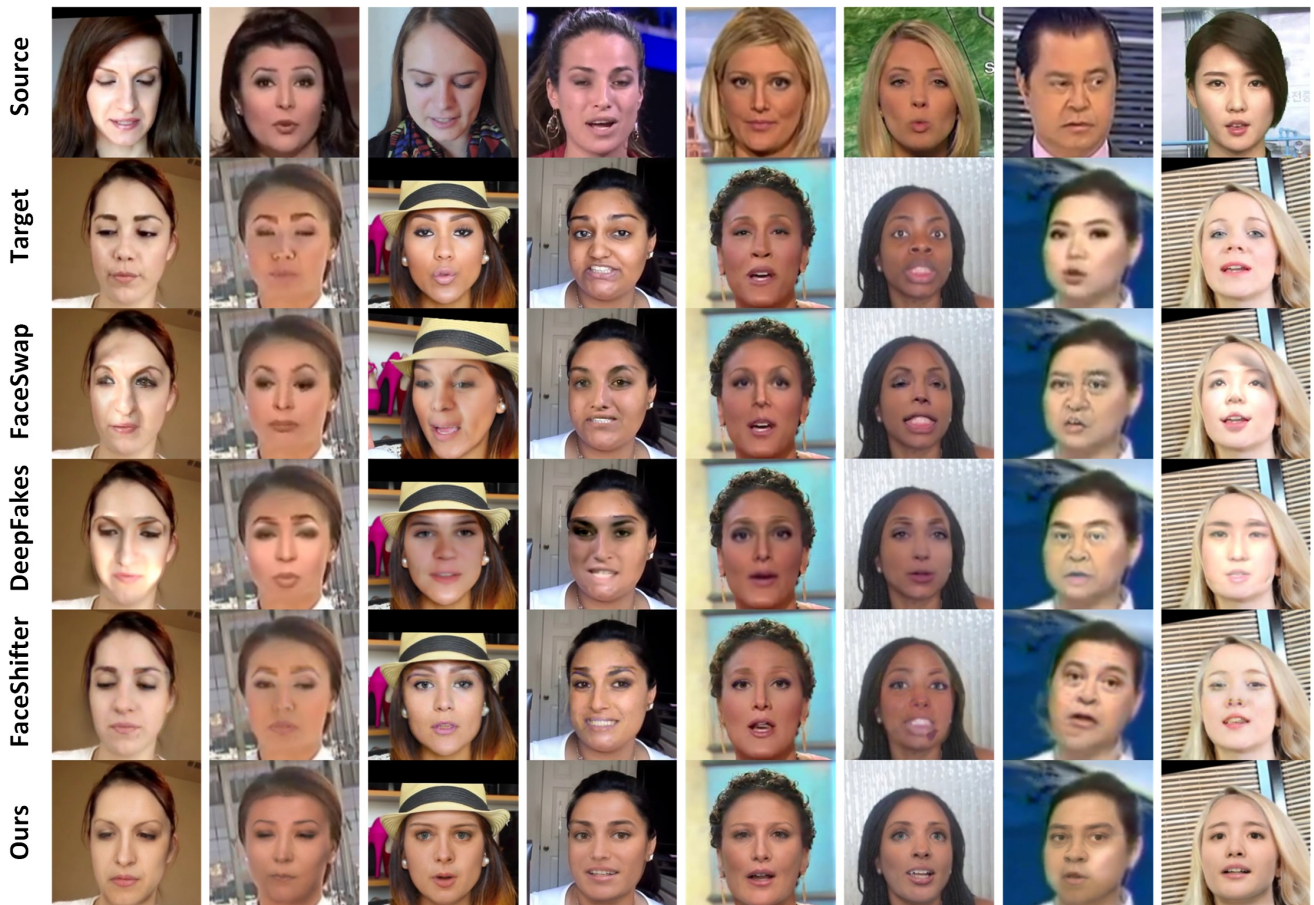


2827 Supplement Material

1 More Comparison Results on FaceForensics++



We present more qualitative comparison on FaceForensics++. As shown in the figure, results of FaceShifter and ours are better than other methods. However, FaceShifter fails to maintain the identity information of the source faces. For example, in the last two rows, FaceShifter tends to maintain the target eyebrows, which makes the swapped face looks like the target face. Actually, faces swapped by FaceShifter in column 1 and 2 are incorrectly classified as the target identity. Besides, Face Shifter generates some stacked eyebrows (columns 3, 4, and 5), artifacts inside or around mouth (columns 5 and 6), and some ghost effects (the last two columns).

2 More Results on CelebA-HQ



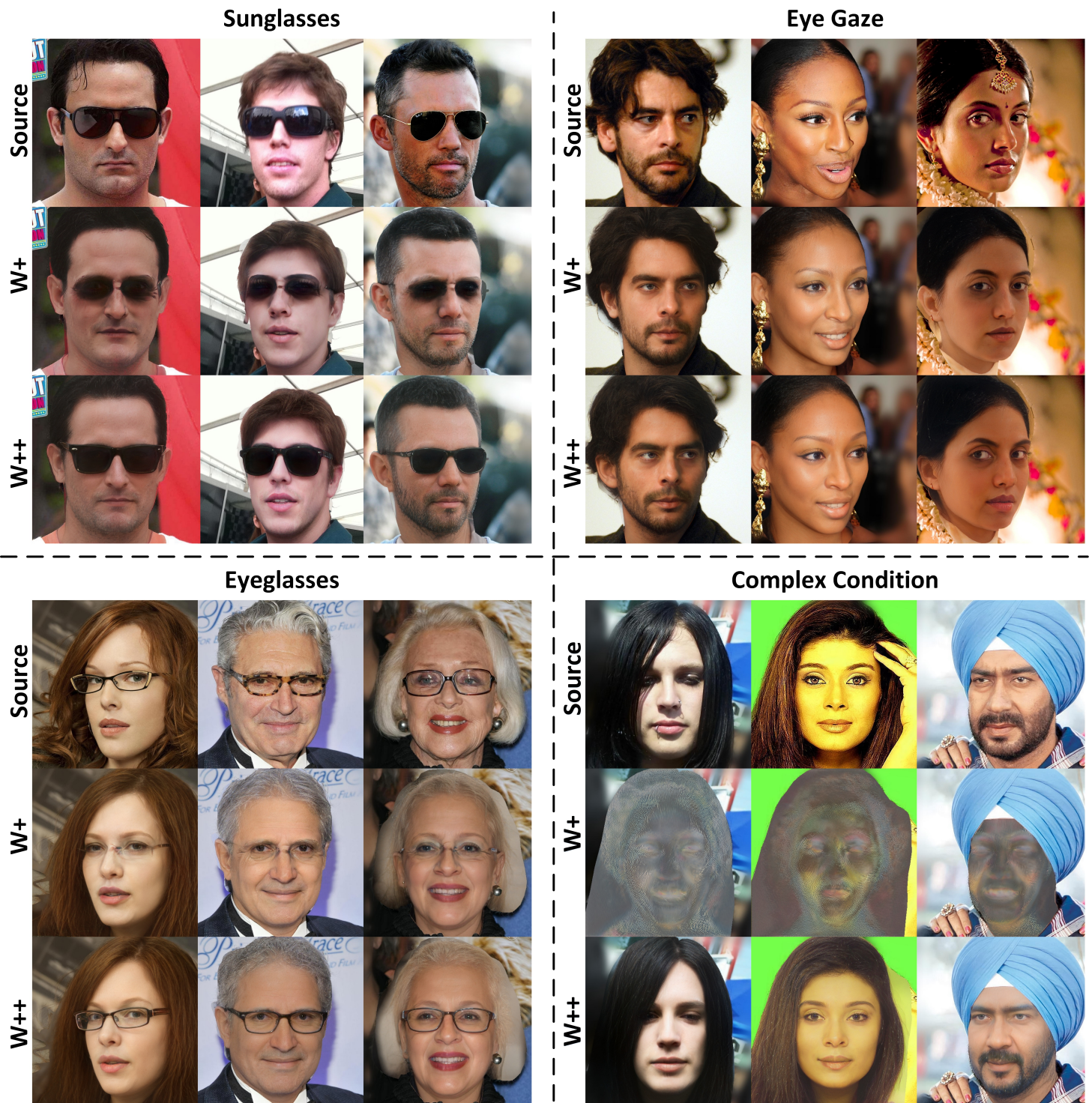
Source

Target

Swapped

Please see more swapped samples in the released [dataset](#).

3 More Comparison between \mathcal{W}^+ and \mathcal{W}^{++}



As we presented in paper, inversion model based on \mathcal{W}^+ fails to generate sunglasses/eyeglasses, capture eye gazes, and reconstruct faces under complex conditions.

4 More Comparison between LCR, ID Injection, and FTM



We illustrate more more comparison results of LCR, ID Injection, and FTM. As shown in this figure, LCR fails to preserve the skin color (columns 1, 2, and 3) and eye gazes (columns 3 and 4) of target faces. Besides, ID Injection preserves less attributes from source faces, such as the beard (columns 5 and 6) and wrinkles (columns 7 and 8) compared to FTM.