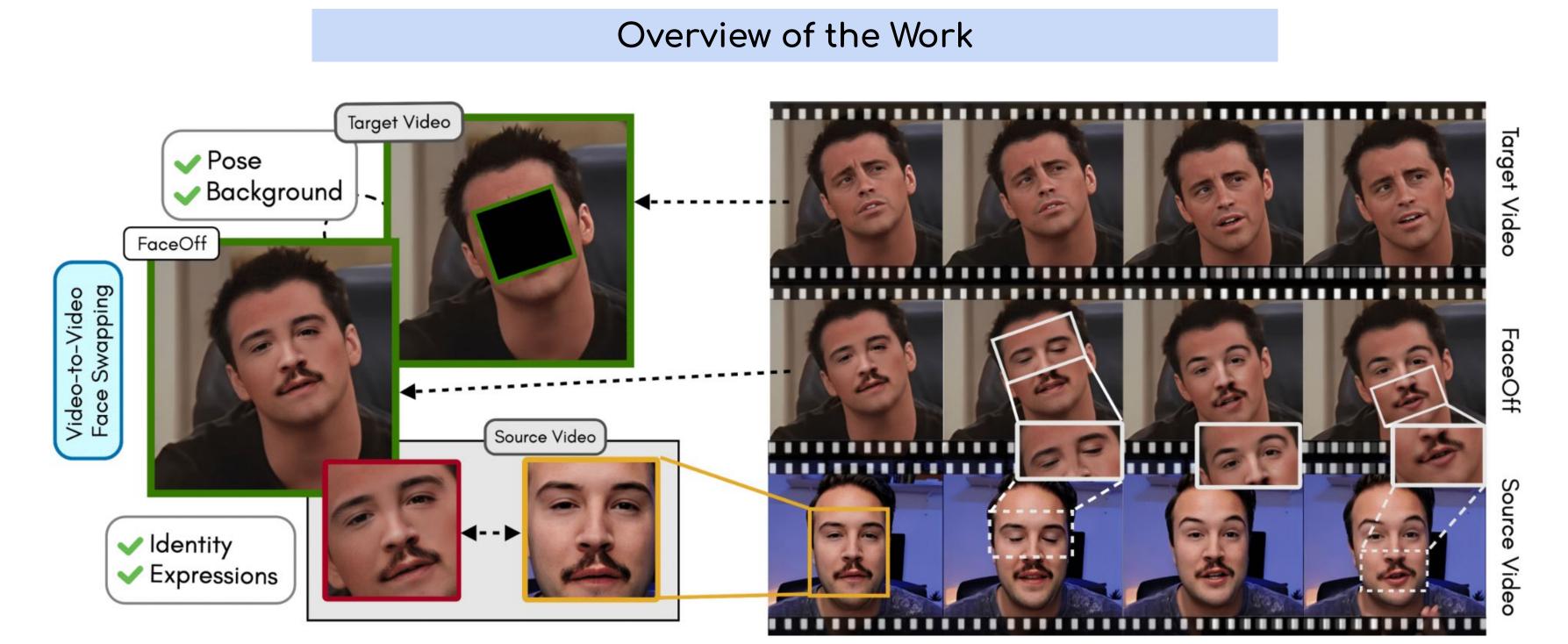


## FaceOff: A Video-to-Video Face Swapping System

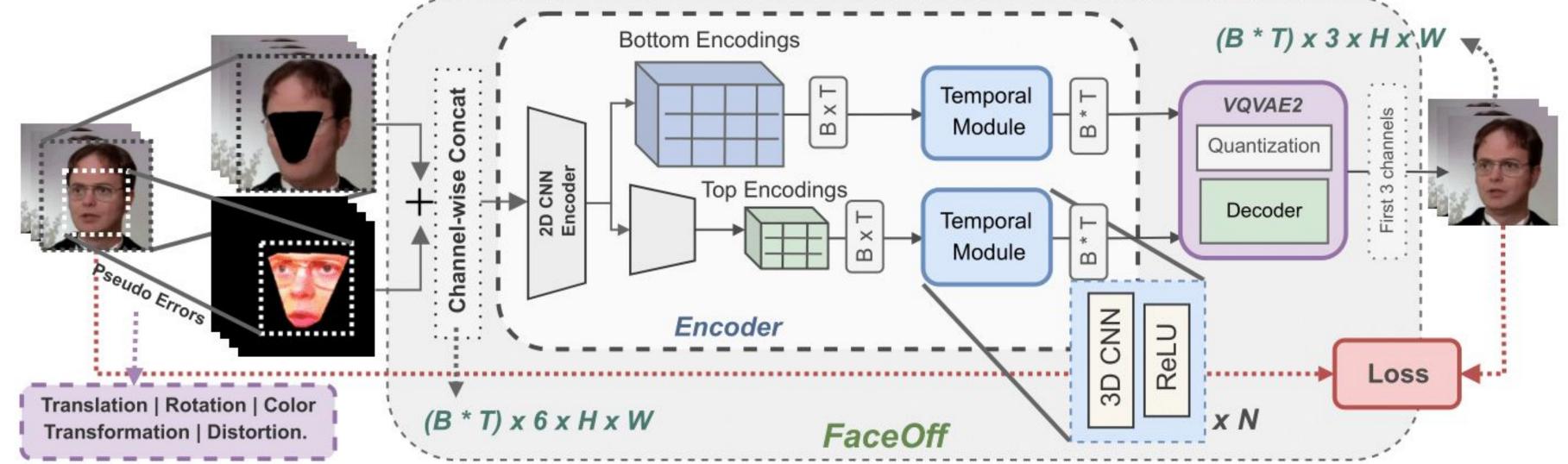


## Aditya Agarwal\*, Bipasha Sen\*, Rudrabha Mukhopadhyay, Vinay Namboodiri, C.V. Jawahar

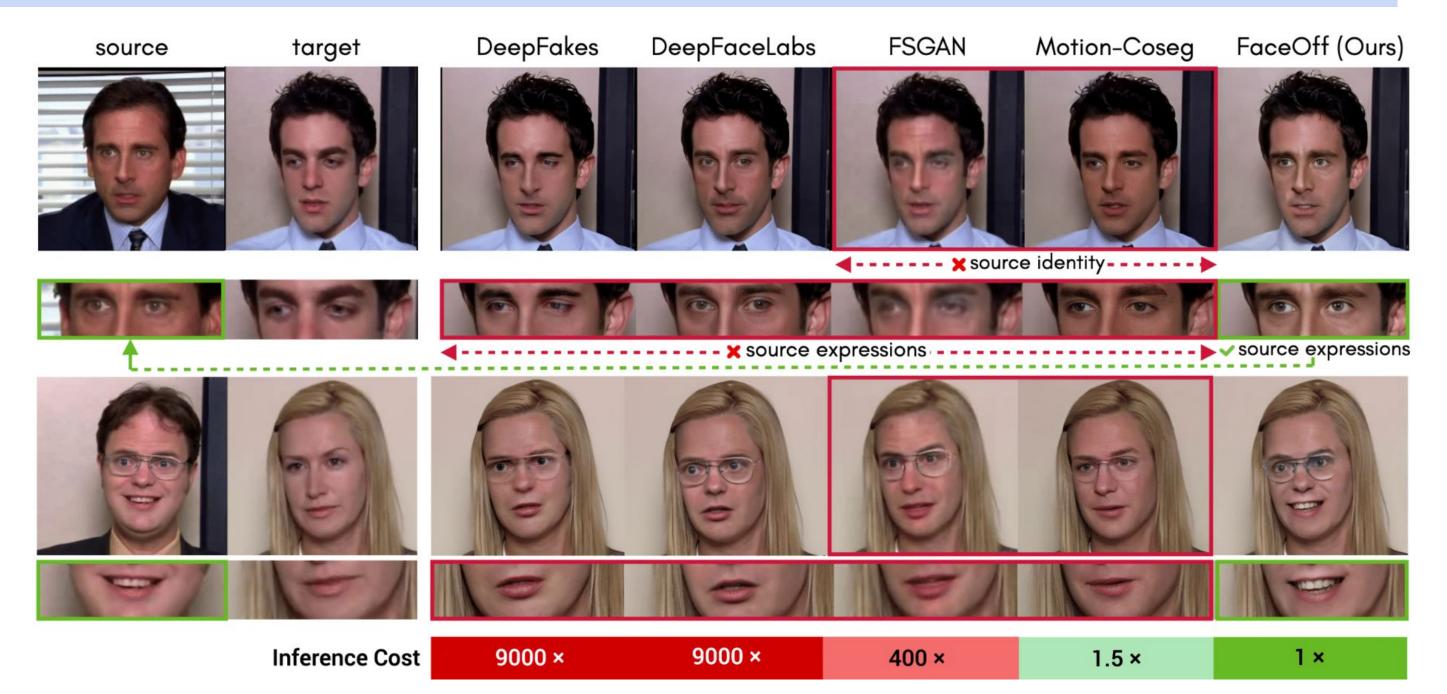


Architecture for Face Swapping in Videos

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## Swapping Identity and Source Expressions

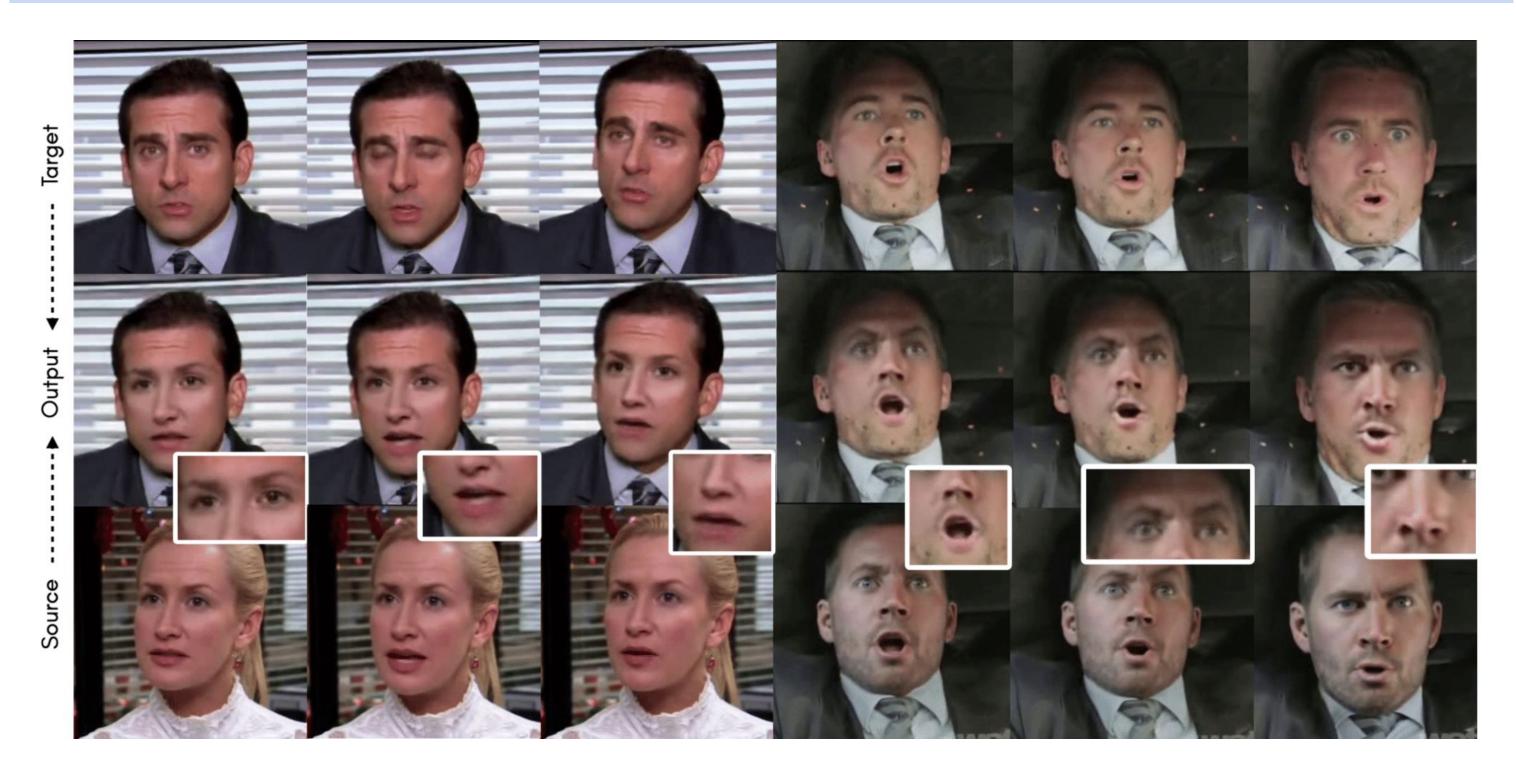


FaceOff solves a unique challenge of V2V face-swapping, a novel task of face-swapping that aims to swap source face identity and expressions while retaining the target background and pose. Moreover, unlike

Method	Quantitative Evaluation					Human Evaluation		
	<b>SPIDis</b> $\downarrow$	LMD ↓	TL-ID ↑	<b>TG-ID</b> ↑	<b>FVD</b> ↓	<b>Identity</b> ↑	Exps. ↑	Ntrl. ↑
Motion-coseg [23]	0.48	0.59	0.872	0.893	293.652	6.82	5.81	7.44
FSGAN [15]	0.49	0.57	0.914	0.923	242.691	7.84	6.83	8.31
FaceOff (Ours)	0.38	0.41	0.925	0.915	255.980	9.64	9.86	8.18

existing methods that need inference time optimization, FaceOff can face-swap unseen identities in a single forward pass, taking less than a second.

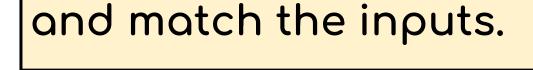
## Face-Swapping Results



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\* Equal Contribution

There is a significant difference in the source and target expressions in all cases. FaceOff successfully swaps the source expressions and identity and retains the target pose and background. It generates a novel motion such that the identity, expressions, and pose in the motion look natural





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