Deepfake Transition using GAN Model Architecture

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Abstract*: Deep fake videos are videos where the features and expressions of a person are replaced with the features and expressions of another person. Videos can be converted or manipulated using powerful Deep Learning techniques. This technology may be used in wrong way or maliciously as a means of spreading misinformation of any activity, manipulation, and persuasion. Currently there are not many solutions to identify products of Deep fake technology, although there is significant research being conducted to tackle or handle with this problem. Generative Adversarial Network (GAN) is the one often researched deep learning technology. These networks preferred to develop or generate the non-existing patterns or creations. In this work, we're working on the development of first order motion model for image animation using Dense motion network. Using key point detectors as a baseline, we train a GAN and extract the facial landmarks from the driving video and building the embedding model to create the synthesized video using the dedicated module to prepare the Deep fakes. At the end, we show's a model to get the efficacy of a group of GAN generators using dense motion networks. Our results generate the augmented animation video using the sequel driving combination of driving video with source image. This project can be used in many areas like multiplying the dataset counts with minimum number source, CG platforms where gaming industry animation industry using to create real-time backgrounds characters, Cloth translations, 3D object generation, etc.*

Keywords: Generative Adversarial Network (GAN), Deep Learning, Dense motion networks, 3D object generation, etc

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