Motion Diffusion Model to Denoising Diffusion GAN: Efficient Motion Sampling

Ronald Campos
University of Central Florida
4000 Central Florida Blvd, Orlando, FL 32816
roncamposj@knights.ucf.edu

Muhammad Asad Haider
University of Central Florida
4000 Central Florida Blvd, Orlando, FL 32816
haider24@knights.ucf.edu

Suneet Tipirneni
University of Central Florida
4000 Central Florida Blvd, Orlando, FL 32816
suneet.tipirneni@knights.ucf.edu

Stefan Werleman
University of Central Florida
4000 Central Florida Blvd, Orlando, FL 32816
stefanwerleman@knights.ucf.edu

Abstract

All existing motion diffusion models use the standard diffusion process which yields high quality samples. However, the standard process for these models can be inefficient. These are one of the challenges with the learning trilemma and this works concerns embedding an existing motion diffusion model into denoising diffusion GANs to create a hybrid architecture of the motion diffusion model. The goal of our work is to improving the sampling efficiency while maintaining the quality of the motion samples.