Forrest Dance

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Abstract

Forrest Dance - is an art video using advance AI movement transfer techniques - submitted are excerpts from two parts of it (the beginning and the end). It speaks to how trees wake each morning and dance (main video) and by nightfall eventually becoming pure light dancers (supplementary1 video). It is a piece about the environment and nature - how all beings have consciousness in their own way. I grew up in NYC but now love that I live in Deep Cove, BC - deep in the woods. I hike everyday and have certain trees that I view as friends over the years, such as these trees (supplementary2 and 3 images). I photograph/video and use them in my artwork in the way that I see them in my head. Much of my 30+ year AI still, installation and video art work brings in movement, emotion and dance - and a love of nature. This work is an art video - that while 15 minutes long - I am open to editing it for the art exhibit. It is very new and has not been show before.

1 How AI was used and Bio

These video uses state of the art video to video techniques that is able to transfer movement from live dance performance to these new art forms (dancing trees, leaves, light spirals. It uses new ipAdapters along to understand and transfer movement from one object to another. The IP-adapter technique uses the CLIP image encoder to extract features from the reference image. The novelty of the IP-adapter is training separate cross-attention layers for the image. This makes the IP-adapter more effective in steering the image generation processing. We using our hand coded modules in the advanced diffusion system ComfyUI with special ipAdapters, and modules such as AnimateDiff and ControlNet. This allows use to take source video of our dance session and transfer the video to anything imaginable. It is an amazing new technique with very creative possibilities. As an AI researcher with a PhD lab and 30+ years of art/research experience I can talk through our cognitive based AI creativity techniques and it philosophical / ethical implications and my work of 30 years (see Bio).

We are interested in using works like this to bring into the classroom to both educate in a fun way about AI but also nature/climate. We are looking to setup a school program - where young students can watch art videos like this - and both learn about the world of nature and seeing nature through art, even this new for of art. After watching and discussing issues like climate change - s would be asked to get up and move the way they see themselves as trees and video each other. We would supply our software tools (on the cloud with big GPUs) so they could select a few videos - to then process themselves (a few minutes of processing) during class with our AI movement transference software into moving trees similar to our art video.

Bio:

Steve DiPaola has been pushing the boundaries of computer-based art for over 30 years. His background in fine art practices, and the technicalities of building generative models of cognition and AI inform his trajectory of art making practice, which is situated at the nexus of art and science.

38th Conference on Neural Information Processing Systems (NeurIPS 2024).

DiPaola's art straddles interdisciplinary boundaries. Through often collaborative processes that involve interaction, site-specific installation and dynamic immersive experience, his work generates a cosmology of relations between the increasingly complex entanglement of humans, machines and nature. With over 15 solo shows and 60 additional major exhibitions, DiPaola's work is exhibited internationally, from the Museum of Modern Art (MoMA), to the MIT Museum, the Whitney Museum of Art, Cambridge University's Kings Art Center, the Smithsonian, and more.

Given his years of work and expertise in 1) creating computational art, 2) creating tools and process for other artists to use and 3) his critical expertise on creativity and artists (over 300 talks, keynotes and papers) – DiPaola was awarded membership into the Royal Society of Canada RSC (college). He was recently commission by the RSC to present a prestigious Massey Lecture on AI and Creativity. The RSC also invited him with 40 AI Royal Society: of Canada and of the UK scholars to present to the Canadian government on the future of AI (in Ottawa). The Lamborghini, recently commissioned DiPaola to make an art work to commemorate for their 60 anniversary, which (2 editions) both toured Canada and went to Italy to be part the permanent collection of their museum.

Much as all works emerge from their cultural contexts, DiPaola's art can be framed in the context of both academic research creation, yet also a continuation of the evolution of the methods and tools of art practice. The custom-built computational systems that DiPaola uses, trace a direct lineage back through art history to the red ochre once used to define imaginaries on cave walls, or the utilization of fresh pigments in Italian frescoes. It is with an awareness of these cultural and historical contexts, that DiPaola experiments with the construction and application of digital tools. As such, the tools are not benign, they are politically situated, as all other trends in art and art tools have emerged from their cultural context. The many decades of experimentation have enabled DiPaola to build a rich database of script sequences (code potions) which he uses to generate new systems and models for cutting edge creative praxis. These state of the art AI tools are utilized alongside historical code sequences, generating original and dynamic interactions that play with the boundaries between human and machine intelligence. It is from these liminal spaces that DiPaola's work emerges as a dynamic entity. Invigorated through iterative processes, each work generates tension between the temporalities of code and the vicerality of human embodiment. DiPaola's current work combines old and new code to explore the ways that abstraction offers insight into a subject, yet also alludes to the subject's spectral and transient qualities. From digital portraits to immersive installations and video works projected onto Canada's largest outdoor screen (link), each artwork contributes to DiPaola's expanding narrative.

Process is the thing that weaves all DiPaola's works together, everything that emerges is a realization of the process. Process is alive at all times, the ai gives memory, can record and reiterate and build code upon code. The systems emerge from other systems. Different modules of system are built on the ones before. The system as a living thing. The system is Steve but it is also the technology. Modules are built on modules. Remixed anew.