



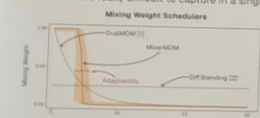
MixerMDM: Learnable Composition of Human Motion Diffusion Models

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MOTIVATION

The **intrapersonal diversity** in human interactions is so vast that it's really difficult to capture in a single model.



Mixing motions generated by specialized models helps address the diversity issue. Previous approaches use **static strategies**, limiting their adaptability.

CONTRIBUTIONS



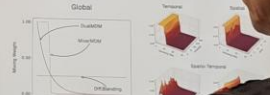
- ★ **MixerMDM** - Learnable model composition technique for dynamically mixing human motion diffusion models
- ★ **Adversarial Training** - Optimization of the pipeline using pseudo-ground truths of the mixed motions
- ★ **Novel Evaluation Pipeline** - Quality of the mixing and the model's ability to adapt the mixing strategy

1111 Learning Leveraging Individual Information in Generative Human Interactions, Pablo Ruiz Ponce et al., CVPR Workshop on Generative AI for Video, 2024
1112 Motion Mixture Diffusion as a Generative Prior, 2024 et al., ICCV 2024



RESULTS

Method	MT	Type	Interaction	Alignment
Diffusion (22)	0.25	0.25	0.25	0.25
MixerMDM	0.25	0.25	0.25	0.25



Pablo Ruiz Ponce had the chance to present his work MixerMDM: Learnable Composition of Human Motion Diffusion Models to Michael Black. Pablo told us:

“Michael is a researcher whose work I’ve long admired and learned from. It was both exciting and overwhelming to see him engage with my poster and ask questions. Thankfully, he was incredibly approachable and easy to talk to, so my initial nervousness quickly disappeared.

Michael was particularly interested in our approach to synthetically increasing the diversity of generated human interactions, and we had an insightful discussion about the challenges of modeling realistic contacts between humans and the limitations of the data currently available.”