ΟΜΙΛΙΑ

"From Capture to Creation: Emerging Technologies in Generative Character Animation"

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ΠΕΡΙΛΗΨΗ – ABSTRACT

This presentation highlights our recent research conducted at the University of Cyprus and the CYENS Centre of Excellence on AI-driven character animation and motion synthesis. We begin by introducing our data acquisition capabilities and an effective motion representation for deep character animation, followed by the introduction of a new motion capture technology for in-the-wild data acquisition that eliminates the need for external cameras and enables robust operation in uncontrolled and outdoor environments. Building on large-scale motion data, this presentation shows how we investigate contextual motion analysis methods that integrate temporal structure, action semantics, and affective cues. A central theme of the talk is the need for an intermediate representation, the so-called movement language model, that bridges natural language and learned motion manifolds, enabling controllable motion generation via generative models with explicit control over sentiment, intent, and task execution. We also present text-prompted motion synthesis pipelines that support compositional and multi-objective generation. Finally, we present our recent work on multimodal generative frameworks for music- and MIDI-driven motion synthesis, aligning rhythmic, harmonic, and temporal features with motion dynamics using deep generative architectures.

Short Bio: *Andreas Aristidou is an Associate Professor in the Department of Computer Science at the University of Cyprus and a Senior Research Fellow at the CYENS Centre of Excellence with special interest in computer graphics and character animation. He completed his PhD as a Cambridge European Trust Fellow at the University of Cambridge and holds an MSc (with honors) in Mobile and Personal Communications from King's College London. He also earned a BSc in Informatics and Telecommunications from the National and Kapodistrian University of Athens. Dr. Aristidou serves on the editorial boards of IEEE Transactions on Visualization and Computer Graphics (TVCG), The Visual Computer (TVC), and Heritage. He is a Senior Member of the Association for Computing Machinery (ACM, SM since 2020), the Institute of Electrical and Electronics Engineers (IEEE, SM since 2019), and a member of Eurographics. He has received numerous fellowships, distinctions, and competitive research grants from local, European, and international funding agencies. His research interests lie at the intersection of computer graphics, computer vision, and virtual reality. He specializes in character animation (spanning analysis, classification, and synthesis) and motion capture, with a particular focus on machine learning and generative AI techniques for the creation of virtual humans. His work further extends to digital heritage (including intangible cultural assets), virtual performances, immersive VR/AR/MR environments, and the application of Conformal Geometric Algebra in computer graphics.*

ΠΑΡΑΣΚΕΥΗ 27 ΦΕΒΡΟΥΑΡΙΟΥ 2026
12:00-13:00
ΑΙΘΟΥΣΑ ΣΕΜΙΝΑΡΙΩΝ