MARKOS DIOMATARIS

Website   Scholar   LinkedIn

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RESEARCH INTERESTS

I aim to create intelligent virtual humans — models and methods that enable avatars to move, perceive, and learn like real humans. I explore data-driven and reinforcement learning approaches so that agents can adapt behaviors beyond existing datasets.

PUBLICATIONS

arXiv 2025 — *Moving by Looking: Towards Vision-Driven Avatar Motion Generation*
Markos Diomataris, Berat Mert Albaba, Giorgio Becherini, Partha Ghosh, Omid Taheri, Michael J. Black
Human-like motion requires human-like perception. We create a human motion generation system purely driven by vision.

arXiv 2025 — *NIL: No-data Imitation Learning by Leveraging Pre-trained Video Diffusion Models*
Mert Albaba, Chenhao Li, **Markos Diomataris**, Omid Taheri, Andreas Krause, Michael J. Black
NIL introduces a data-independent approach for motor skill acquisition that learns 3D motor skills from 2D-generated videos.

CVPR 2024 — *WANDR: Goal-Reaching Human Motion Generation* (PDF, Video, Project)
Markos Diomataris, Nikos Athanasiou, Omid Taheri, Xi Wang, Otmar Hilliges, Michael J Black
WANDR is a conditional VAE that generates realistic human motion sequences reaching arbitrary goal locations. It uses an internal "intention" loop to guide motion without needing reinforcement learning.

SIGGRAPH Asia 2024 — *MotionFix: Text-Driven 3D Human Motion Editing*
Nikos Athanasiou, Alpár Cseke, **Markos Diomataris**, Michael J. Black, Gül Varol
The MotionFix dataset is the first benchmark for 3D human motion editing from text, enabling training and evaluation of text-based motion editing models.

ICCV 2021 — *Grounding Consistency: Distilling Spatial Common Sense for Precise Visual Relationship Detection*
Markos Diomataris, Nikolaos Gkanatsios, Vassilis Pitsikalis, Petros Maragos
We propose a semi-supervised scheme that forces predicted triplets to be grounded consistently back to the image, addressing context bias in Scene Graph Generators.

EDUCATION & EXPERIENCE

Ph.D. Student, ETH Zürich / Max Planck Institute Tübingen (CLS Program)   2022 – Present
Supervisors: Michael Black, Otmar Hilliges, Stelian Coros

Computer Vision Researcher, Deeplab   2020 – 2022
Lead the Vision & Language research team. Research work on visual relationship detection; supervised student researchers.

BEng/Dipl.-Ing. (Electrical & Computer Engineering), National Technical University of Athens 2014 – 2020
Thesis (2019–2020): "Analyzing and Solving Context Bias in Visual Relationship Detection using Semi-Supervised Techniques" (co-supervised by Petros Maragos & Deeplab)

SKILLS

Programming	Python, C/C++, MATLAB
Machine Learning / Vision	PyTorch, reinforcement learning
Tools	Git, Docker, ROS