Proceedings of the 13th World Congress on Electrical Engineering and Computer Systems and Sciences (EECSS 2027)
August 15 – 17, 2027 – Prague, Czech Republic
DOI: 10.11159/mvml26.001

3D Visual Character Motion Reconstruction, Generation, and Embodied Agents

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Abstract

Recent advances in sensing and deep learning have opened exciting new possibilities for analyzing character motion — encompassing both humans and animals — in virtual 3D space. These developments hold significant promise across a wide range of applications, from natural user interfaces and AR/VR to robotics and gaming. In this talk, I will present the latest research progress in this rapidly evolving field, with a particular focus on 3D pose tracking, human motion generation, and hand object interactions. I will highlight key developments from the past few years alongside contributions from our own lab.