Guanhe Huang

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Digital Humans · 3D Human Motion · Human–Robot Interaction

Research Profile

PhD researcher at King's College London working on digital humans, 3D human motion, and text-to-motion generation. Research spans generative motion modeling, multi-person tracking, motion capture, and human–robot interaction.

Education

2023–2027 **King's College London**, London, UK
PhD in Engineering Research, expected Sep 2027
Deep Generative Human Motion Modeling for Human–Robot Interaction
Supervisor: Dr Oya Celiktutan

2020–2023 **Nanchang University**, Nanchang, China
Master in Control Science and Engineering

2015–2019 **Beijing Information Science and Technology University**, Beijing, China
BS in Automatic Control

Selected Publications

2026 **[C1] Improving the Diffusability of Motion Tokenizer**
Guanhe Huang*, Songqiao Han*, Tangzheng Lian, Oya Celiktutan *Equal contribution
NeurIPS 2026 Spotlight · Top 1.3% (292/30,709) [Paper] [Project] [Code]
Contribution: Post-training motion tokenizers with spectral latent regularization and generative decoding for diffusion-friendly latent spaces.

2026 **[C2] Unified Number-Free Text-to-Motion Generation via Flow Matching**
Guanhe Huang, Oya Celiktutan
CVPR 2026 Highlight · Top 3.6% (578/16,092) [Paper] [Project] [Code]
Contribution: Unified Motion Flow (UMF) for number-free text-to-motion generation, reducing computation and stage-wise error accumulation.

2026 **[C3] FILD: Flash Interaction Latent Diffusion for Real-Time Text-Conditioned Human-Human Interaction Generation**
Guanhe Huang, Ruiqi Zhu, Oya Celiktutan
IEEE FG 2026 [Paper]
Contribution: One-step real-time human–human interaction generation via consistency and distribution-matching distillation.

2022 **[C4] Multimodal Depression Detection Based on Factorized Representation**
Guanhe Huang, Wenchao Shen, Heli Lu, Feihu Hu, Jing Li, Honghai Liu
IEEE International Conference on High Performance Big Data and Intelligent Systems (HDIS) [Paper]

2026 **[J1] Efficient Continual Imitation Learning With Online Meta-Adapters**
Ruiqi Zhu, Endong Sun, **Guanhe Huang**, Oya Celiktutan
IEEE Robotics and Automation Letters [Paper] [Project]

2024 **[J2] Gaze Estimation by Attention-Induced Hierarchical Variational Auto-Encoder**
Guanhe Huang, Jingyue Shi, Jun Xu, Jing Li, Shengyong Chen, Yingjun Du, Xiantong Zhen, Honghai Liu
IEEE Transactions on Cybernetics [Paper] [Code]

2024 **[J3] Rethinking Inconsistent Context and Imbalanced Regression in Depression Severity Prediction**
Guanhe Huang, Jing Li, Heli Lu, Ming Guo, Shengyong Chen
IEEE Transactions on Affective Computing [Paper]

Research and Industry Experience

2026.06–Present **Tencent, Interactive Entertainment Group, London, UK**
Generative AI Research Intern
Built a single-camera multi-person motion capture pipeline for real and generated videos, improving pose estimation and identity tracking. Developing stylized 3D motion reconstruction and an LLM-based QA/repair agent for temporal and kinematic failures.

2019.10–2020.06 **Institute of Computing Technology, Chinese Academy of Sciences**
Research Intern
Worked on NLP and knowledge graphs, including entity/relation modeling and structured semantic representation.

Technical Skills

ML: Python, C++, PyTorch, TensorFlow, Transformers, Diffusion Models, Flow Matching.
3D / Robotics: Human Motion, Motion Capture, Maya, Blender, Unity, ROS2, Isaac Gym.
Systems: Linux, Git, Docker, Slurm, Weights & Biases.