Ti Wang

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Research Interest

- Computer Vision and Deep Learning.
- Animal Behavior Analysis, Digital Animals, 2D/3D Animal Pose and Shape Estimation.
- Digital Humans, 3D Human Pose and Mesh Estimation, Action Recognition.

Education

École Polytechnique Fédérale de Lausanne (EPFL) *Switzerland*
Second-year PhD Student at MLAI, Advisor: Prof. Mackenzie Mathis 2024.09 – Present

University of Trento (UniTn) *Italy*
Visiting student of MHUG, Advisor: Prof. Nicu Sebe 2023.07 – 2023.09

Peking University (PKU) *China*
Third-Year Master Student in Computer Science. Advisor: Prof. Hong Liu 2021.09 – 2024.06
Research Topics: 3D Human Pose and Shape Estimation, Action Recognition. GPA: 3.75 / 4.0

Publication

- **FMPose3D: monocular 3D pose estimation via flow matching**
  Ti Wang, Xiaohang Yu, Mackenzie Weygandt Mathis.
  arXiv preprint arXiv:2602.05755 (2026). Code
- **Uncertainty-Aware Testing-Time Optimization for 3D Human Pose Estimation**
  Ti Wang, Mengyuan Liu, Hong Liu, Bin Ren, Yingxuan You, Wenhao Li, Nicu Sebe, Xia Li.
  *IEEE Transactions on Multimedia (**TMM**)*, 2026. Code
- **Interweaved Graph and Attention Network for 3D Human Pose Estimation**
  Ti Wang, Hong Liu, Runwei Ding, Wenhao Li, Yingxuan You, Xia Li.
  *IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**)*, 2023. Code
- **Co-Evolution of Pose and Mesh for 3D Human Body Estimation from Video**
  Yingxuan You, Hong Liu, **Ti Wang**, Wenhao Li, Runwei Ding, Xia Li.
  *IEEE International Conference on Computer Vision (**ICCV**)*, 2023. Code
- **GATOR: Graph-Aware Transformer with Motion-Disentangled Regression for Human Mesh Recovery from a 2D Pose**
  Yingxuan You, Hong Liu, Xia Li, Wenhao Li, **Ti Wang**, Runwei Ding.
  *IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**)*, 2023. Code
- **Self-Supervised 3D Skeleton Representation Learning with Active Sampling and Adaptive Relabeling for Action Recognition**
  Guoquan Wang, Hong Liu, Tianyu Guo, Jingwen Guo, **Ti Wang**, Yidi Li.
  *IEEE International Conference on Image Processing (**ICIP**)*, 2023.

Projects Experience

Visual Obstacle Avoidance based on Deep Reinforcement Learning Oct 2020 – Oct 2021

- Main Work: We present PER-D3QN, an end-to-end network architecture designed for visual obstacle avoidance in mobile robot. This architecture is a dueling architecture based deep double-Q network with prior-

itized experience reply. To evaluate our methodology, we construct indoor simulation environments using the Gazebo platform. We then utilize the Robot Operating System (ROS) communication mechanism to control the mobile robot's interactions within these environments. Using only continuous depth images, our model accurately predicts the actions required for effective obstacle avoidance by the mobile robot.

Facial Age Synthesis System Jun 2019 – Oct 2020

- Main Work: This project utilizes a GAN network to generate facial images corresponding to the target age label from input images. In addition to loss functions such as adversarial loss and reconstruction loss, semantic consistency loss is introduced to maintain the semantic information of the input face after domain transformation. Finally, we implemented a user-friendly facial age synthesis system.

Invention Patent

- **A 3D Human Pose Estimation Method Based on Interweaved Graph and Attention Network.**
  Hong Liu, **Ti Wang**, Wenhao Li, Yingxuan You, Runwei Ding.
  Invention patent, Published Application Number: CN116129051A, 2023.

Competition

- **The Finalist Aword** in Mathematical Contest in Modeling (**Top 1%**) 2020
- **First Prize** in Mathematics China Mathematical Modeling Network Challenge of Certification Cup 2020
- **First Prize** in China Undergraduate Mathematical Contest in Modeling, Jiangsu Division 2019
- **First Prize** in Advanced Mathematics Competition of Jiangsu Province 2018

Awards and Honors

- The Academic Excellence Award, *Peking University* 2022

Skills

- **Programming**: Python, Pytorch, C/C++, MATLAB, LaTeX.
- **Language**: Mandarin (Native), English.
- **Operating System**: Windows, Linux.
- **Hobbies**: Running, Half Marathon, Hiking, Swimming.