Ziyang Song

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Research interests: My ultimate research goal is to build realistic and immersive digital 3D worlds, where technical problems include reconstruction, segmentation, generation, and editing of 3D scenes.

EDUCATION

The Hong Kong Polytechnic University — Hong Kong SAR, China

PhD in Computing; Supervisor: Bo Yang — Sep. 2021 - now

Xi'an Jiaotong University — Xi'an, China

MEng in Control Science and Engineering — Sep. 2018 – Jun. 2021

Xi'an Jiaotong University — Xi'an, China

BEng in Automation (Honors Youth Program) — Sep. 2014 – Jun. 2018

WORK EXPERIENCE

SenseTime, *Research Intern* — Feb. 2021 – Jul. 2021

Research in 3D human motion synthesis (*ActFormer*, ICCV 2023); Development of a sparse-view 3D human motion capture system

Tencent Robotics X, *Research Intern* — Jun. 2019 – Aug. 2019

Development of a real-time human action recognition system on mobile platform (NVIDIA Xavier)

SELECTED PUBLICATIONS

- **Ziyang Song**, Jinxi Li, Bo Yang. *SDTet: Compact 3D Surface Representation by Self-Densifying Tetrahedra*. Under Review.
- Jinxi Li, **Ziyang Song**, Siyuan Zhou, et al. *NGV: Neural Gaussian Velocity for 3D Physics Modeling from Dynamic Videos*. Under Review.
- Jinxi Li, **Ziyang Song**, Bo Yang. *GVFi: Learning 3D Gaussian Velocity Fields from Dynamic Videos*. Under Review.
- **Ziyang Song**, Jinxi Li, Bo Yang. *OSN: Infinite Representations of Dynamic 3D Scenes from Monocular Videos*. ICML, 2024.
- **Ziyang Song**, Bo Yang. *Unsupervised 3D Object Segmentation of Point Clouds by Geometry Consistency*. TPAMI, 2024.
- Jinxi Li, **Ziyang Song**, Bo Yang. *NVFi: Neural Velocity Fields for 3D Physics Learning from Dynamic Videos*. NeurIPS, 2023.
- Liang Xu*, **Ziyang Song***, Dongliang Wang, et al. *ActFormer: A GAN-based Transformer towards General Action-Conditioned 3D Human Motion Generation*. ICCV, 2023.
- **Ziyang Song**, Bo Yang. *OGC: Unsupervised 3D Object Segmentation from Rigid Dynamics of Point Clouds*. NeurIPS, 2022.

(* denotes equal contribution)

TECHNICAL SKILLS

- **Frameworks:** PyTorch, Taichi, Nvdiffrast, Tensorflow, etc.