

# Ziyang Song

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## EDUCATION

### The Hong Kong Polytechnic University

Hong Kong SAR, China

*PhD in Computing; Supervisor: Bo Yang*

Sep. 2021 – Feb. 2026 (Expected)

- **Thesis title:** Segmentation and Reconstruction of 3D Objects from Dynamic Scenes

### 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

### TikTok

San Jose, USA

*Research Intern; Mentor: Xinyu Gong*

Jul. 2025 – Nov. 2025 (Expected)

- Research in reference-to-video generation
  - Development of a new video generation algorithm w.r.t multi-view reference images of objects
  - Curation of a large-scale object-centric reference-to-video dataset

### SenseTime

Shanghai, China

*Research Intern; Mentor: Dongliang Wang*

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

Shenzhen, China

*Research Intern; Mentor: Wanchao Chi*

Jun. 2019 – Aug. 2019

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

## SELECTED PUBLICATIONS

- **Ziyang Song**, Jinxi Li, Zihui Zhang, et al. *Mono360: Free View Synthesis of Deformable Objects from Monocular Videos via Dynamic Fusion*. Under Review.
- Peng Huang, Jinxi Li, **Ziyang Song**, et al. *CoVIP: Visual-Physical 3D Scene Reconstruction from a Single Image*. Under Review.
- Jinxi Li, **Ziyang Song**, Bo Yang. *TRACE: Learning 3D Gaussian Physical Dynamics from Multi-view Videos*. ICCV, 2025.
- Jinxi Li, **Ziyang Song**, Siyuan Zhou, et al. *FreeGave: 3D Physics Learning from Dynamic Videos by Gaussian Velocity*. CVPR, 2025.

- **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

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- **Frameworks:** PyTorch (deep learning), Taichi (differentiable geometry processing), Nvdiffrastr (differentiable rendering), etc.
- **Large-scale GPU usage:** Multi-node distributed training experience