

# YAOKUN LI

Ph.D. student at Sun Yat-sen University

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## RESEARCH INTEREST

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My research interests center around generalizable neural representations, 3D reconstruction, and face analysis/editing. In the long term, I strive to advance lightweight, generalizable representation learning for 3D objects/scenes, aiming to achieve effective 3D representations tailored for real-world applications. In the near term, I tend to do some work on generalizable NeRF and 3D facial/body reconstruction.

## BACKGROUND

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### Sun Yat-sen University

Successive master-doctor program in Control Science and Engineering  
Supervisor: Prof. Guang Tan & Assoc. Prof. Chao Gou

Shenzhen, China  
Sep. 2021 – present

### Wuhan University of Technology

B.Eng. in Vehicle Engineering  
Military service

Wuhan, China  
Sep. 2015 – Sep. 2016 & Sep. 2018 – Jun. 2021  
Sep. 2016 – Sep. 2018

## RESEARCH

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### Publications

- **Yaokun Li**, Guang Tan, and Chao Gou. “Cascaded Iterative Transformer for Jointly Predicting Facial Landmark, Occlusion Probability and Head Pose.” International Journal of Computer Vision (**IJCV**).
  - We propose a task-dependent inspired cascaded iterative transformer multitasking framework for joint prediction of facial landmark, occlusion probability, and pose.
- Yuchen Zhou, Guang Tan, Rui Zhong, **Yaokun Li**, and Chao Gou. “PIT: Progressive Interaction Transformer for Pedestrian Crossing Intention Prediction.” IEEE Transactions on Intelligent Transportation Systems (**TITS**).
  - We propose a progressive interaction transformer to capture the dynamic spatiotemporal interactions between humans, vehicles, and the environment more progressively as humans do.
- **Yaokun Li**, Yuezhao Yu, Yuliang Liu, and Chao Gou. “MS-GCN: Multi-Stream Graph Convolution Network for Driver Head Pose Estimation.” (**ITSC 2022**)
  - We propose a multi-stream graph convolution network to incorporate topological, local, and global facial information for driver’s head pose estimation.

### Under review

- **Yaokun Li**, Chao Gou, Shuaixian Wang, and Guang Tan. “Taming Uncertainty in Generalizable NeRF with Sparse Inputs using Indirect Diffusion-Guided Latent Space.” (**ICRA 2024**)
  - We propose ID-NeRF, a generalizable NeRF that leverages a pre-trained diffusion model to offer indirect guidance in resolving uncertainty from sparse inputs.

## AWARDS

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- **2023:** Third Prize of 2023 “Huawei Cup” National Graduate Student Mathematical Modeling Competition
- **2022:** Honorable mention in HACKPKU 2022
- **2019:** China National Scholarship

## SKILLS

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- **Programming Languages:** Python, C.
- **Framework:** Pytorch, Tensorflow.
- **Languages:** Chinese (native), English (daily communication, academic reading and writing).