YAOKUN LI

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RESEARCH INTEREST

My research interests center around generalizable neural representations, 3D reconstruction/editing, and face analysis. 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. Recently, I am keen on exploring how to utilize the prior knowledge of pre-trained generative models to address uncertainty in sparse 3D reconstruction.

BACKGROUND

Sun Yat-sen University — Shenzhen, China
Master-Doctor combined program (Average: 86.73/100) — Sep. 2021 – present
Ph.D. in Control Science & Engineering (Voluntarily quit) — *Sep. 2023 – present*
M.S. in Traffic Information Engineering & Control — *Sep. 2021 – Sep. 2023*

Wuhan University of Technology — Wuhan, China
B.S. in Automotive Engineering. (Average: 85.82/100) — Sep. 2015 – Jun. 2021
Military Service — *Sep. 2016 – Sep. 2018*

RESEARCH

Preprint

- **Yaokun Li**, Chao Gou, Guang Tan. "Taming Uncertainty in Sparse-view Generalizable NeRF via Indirect Diffusion Guidance" **(arXiv 2024)**
  - *We propose ID-NeRF, a novel Indirect Diffusion-guided NeRF framework that mitigate uncertainty in Generalizable NeRFs with sparse inputs by indirectly leveraging a distilled diffusion prior.*

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 2023)**.
  - *We propose a task-dependent inspired cascaded iterative transformer multitasking framework for joint prediction of facial landmark, occlusion probability, and pose.*

- **Yaokun Li**, Yuezhao Yu, Yuliang Liu, and Chao Gou. "MS-GCN: Multi-Stream Graph Convolution Network for Driver Head Pose Estimation." IEEE International Conference on Intelligent Transportation Systems **(ITSC 2022)**.
  - *We propose a multi-stream graph convolution network to incorporate topological, local, and global facial information for driver's head pose estimation.*

In Doing

- **Yaokun Li**, Guang Tan. "Generalizable 3D Gaussian Splatting From Single Image for Novel View Synthesis"
  - *We focus on the highly ill-posed task of 3D reconstruction from a single image, intending a two-stage process that first utilizes prior knowledge from large models for shape regularization and then deforms 3D Gaussians.*

AWARDS

- **2019**: **China National Scholarship (Top 0.5%)**
- **2020**: **Polytechnic Youth Top Ten Students (10 per year across the university)**
- **2023**: Third Prize of 2023 "Huawei Cup" National Graduate Student Mathematical Modeling Competition

SKILLS

- **Programming Languages:** Python, C.
- **Framework:** Pytorch.
- **Languages:** Chinese (native), English (522 in CET-4, 503 in CET-6, preparing for IELTS).