Shen Qiuhong

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Research Interests

- **3D reconstruction/generation:** large-scale pretrained 3D generative models, efficient inverse rendering.
- **Visual detection/tracking:** Self/Weak/Semi-supervised visual detection and tracking tasks.

Education

National University of Singapore, Singapore   2023.1 – Present

PhD student in Computer Engineering (CE)
Supervisor: Prof. Wang Xinchao

Harbin Institute of Techonology, Shenzhen, China   2019.9 – 2022.6

MPhil in Electronics Engineering
Supervisor: Prof. Liang Yongsheng

Selected Publications

1. **Qiuhong Shen**, Xingyi Yang, Michael Bi Mi, Xinchao Wang
   Vista3D: Unravel the 3D darkside of a single image
   European Conference on Computer Vision (**ECCV 2024**).
2. **Qiuhong Shen**, Xingyi Yang, Xinchao Wang
   FlashSplat: 2D to 3D Gaussian Splatting Segmentation Solved Optimally
   European Conference on Computer Vision (**ECCV 2024**).
3. **Qiuhong Shen**, Lei Qiao, Jinyang Guo, Peixia Li, Xin Li, Bo Li, Weitao Feng, Weihao Gan, Wei Wu, Wanli Ouyang
   Unsupervised Learning of Accurate Siamese Tracking
   IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2022 (oral)**).
4. Boyu Chen, Peixia Li, Lei Bai, Lei Qiao, **Qiuhong Shen**, Bo Li, Weihao Gan, Wei Wu, Wanli Ouyang
   Backbone is all your need: A simplified architecture for visual object tracking
   European Conference on Computer Vision (**ECCV 2022**).
5. **Qiuhong Shen***, Zike Wu*, Xuanyu Yi*, Pan Zhou, Hanwang Zhang, Shuicheng Yan, Xinchao Wang
   Gamba: Marry Gaussian Splatting with Mamba for Single-View 3D Reconstruction
   Tech Report on arxiv (**Under review**)
6. Xuanyu Yi*, Zike Wu*, **Qiuhong Shen***, Qingshan Xu, Pan Zhou, Joo-Hwee Lim, Shuicheng Yan, Xinchao Wang, Hanwang Zhang
   MVGamba: Unify 3D Content Generation as State Space Sequence Modeling
   Tech Report on arxiv (**Under review**)
7. **Qiuhong Shen***, Xingyi Yang*, Xinchao Wang
   Anything-3D: Towards Single-view Anything Reconstruction in the Wild
   Tech Report on arxiv

Experience

Wechat Channels, Tencent, Guangzhou, China   2022.7 – 2023.1

Fulltime Applied Scientist.

- Design multi-modality video understanding algorithm for the Channels product in Wechat.
- Deploy efficient model in Wechat backend computation infrastructures and online optimize.

Sensetime Group Ltd, Shanghai, China   2021.2 – 2022.6

Research Intern.   Supervised by Prof.Wanli Ouyang

- Proposed a novel framework for unsupervised learning of visual object tracking, achieving comparable performance on par with supervised counterpart.
- Designed and implemented a new scheme for pretrained visual representation of visual tracking.