

Sucheng Ren

Johns Hopkins University

☎ (+86) 159-0202-7241 | ✉ oliverrensu@gmail.com | 🏠 Scholar

Education

Johns Hopkins University

DOCTOR OF COMPUTER SCIENCE

- Working on Generative Model and Self-supervised Learning under the supervision of Prof. Alan Yuille

Baltimore, Maryland

Aug. 2023 – now

South China University of Technology

MASTER OF COMPUTER SCIENCE

- National Scholarship (Top 1%).

Guangzhou, China

Sep. 2020 – Jun. 2022

South China University of Technology

BACHELOR OF COMPUTER SCIENCE

- GPA: 3.72/4.0

Guangzhou, China

Sep. 2016 – Jun. 2020

Internship

Apple

- Work with Yinfei Yang in video generation

Jun. 2025 – now

Bytedance Seed

- Work with Dr. Liang-Chieh Chen in diffusion and autoregressive modeling.

Jun. 2024 – Apr. 2025

Microsoft Research Asia

- Work with Dr. Han Hu in self-supervised learning.

Apr. 2022 – Jun. 2023

National University of Singapore

- Work with Prof. Jiashi Feng in Transformer.

Dec. 2021 – Apr. 2022

Publications

1. In submission

Sucheng Ren, Yaodong Yu, Nataniel Ruiz, Feng Wang, Alan Yuille, Cihang Xie, "Decoupled Scale-wise Autoregressive Modeling for High-Quality Image Generation", in submission.

Sucheng Ren, Xiaoke Huang, Xianhang Li, Junfei Xiao, Jieru Mei, Zeyu Wang, Alan Yuille, Yuyin Zhou, "Medical Vision Generalist: Unifying Medical Imaging Tasks in Context", in submission.

2. First Author: CVPR*6, ICML*2, ICCV*2, ECCV*1, ICLR*1, TMLR*1, TNNLS*1, WACV*1

Sucheng Ren, Qihang Yu, Ju He, Xiaohui Shen, Alan Yuille, Liang-Chieh Chen, "Beyond Next-Token: Next-X Prediction for Autoregressive Visual Generation", International Conference on Computer Vision (**ICCV2025**)

Sucheng Ren, Qihang Yu, Ju He, Xiaohui Shen, Alan Yuille, Liang-Chieh Chen, "FlowAR: Scale-wise Autoregressive Image Generation Meets Flow Matching", International Conference on Machine Learning, (**ICML2025**).

Sucheng Ren, Xianhang Li, Haoqin Tu, Feng Wang, Fangxun Shu, Lei Zhang, Jieru Mei, Linjie Yang, Peng Wang, Heng Wang, Alan Yuille, Cihang Xie, "Autoregressive Pretraining with Mamba in Vision", (**ICLR2025**).

Sucheng Ren, Chen Wei, Hongru Zhu, Yijiang Li, Alan Yuille, Cihang Xie. "GPT-Video: Generative Pre-trained Transformers for Self-supervised Video Representation Learning", (**TMLR**).

Sucheng Ren, Fangyun Wei, Samuel Albanie, Zheng Zhang, Han Hu, "DeepMIM: Deep Supervision for Masked Image Modeling", IEEE/CVF Winter Conference on Applications of Computer Vision, (**WACV2025**) (**Oral**).

Sucheng Ren, Zeyu Wang, Hongru Zhu, Junfei Xiao, Alan Yuille, Cihang Xie. "Rejuvenating i-GPT for Scalable Visual Representation Learning", International Conference on Machine Learning, (**ICML2024**) (**oral**).

Sucheng Ren, Xingyi Yang, Songhua Liu, Xinchao Wang. "SG-Former: Self-guided Transformer with Evolving Token Reallocation", International Conference on Computer Vision (**ICCV2023**)

Sucheng Ren, Fangyun Wei, Zheng Zhang, Han Hu. "TinyMIM: An Empirical Study of Distilling MIM Pre-trained Models", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2023**)

Sucheng Ren, Daquan Zhou, Shengfeng He, Jiashi Feng, Xinchao Wang. "Shunted Self-Attention via Multi-Scale Token Aggregation", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2022**) (**Oral**)

Sucheng Ren, Huiyu Wang, Zhengqi Gao, Shengfeng He, Alan Yuille, Yuyin Zhou, Cihang Xie. "A Simple Data Mixing Prior for Improving Self-Supervised Learning", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2022**)

Sucheng Ren, Zhengqi Gao, Tianyu Hua, Zihui Xue, Yonglong Tian, Shengfeng He, Hang Zhao. "Co-advise: Cross Inductive Bias Distillation", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2022**)

Sucheng Ren, Yong Du, Jianming Lv, Guoqiang Han, Shengfeng He. "Learning from the Master: Distilling Cross-modal Advanced Knowledge for Lip Reading", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2021**)

Sucheng Ren, Wenxi Liu, Yongtuo Liu, Haoxin Chen, Guoqiang Han, Shengfeng He. "Reciprocal Transformations for Unsupervised Video Object Segmentation", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2021**)

Sucheng Ren, Chu Han, Xin Yang, Guoqiang Han, and Shengfeng He. "TENet: Triple Excitation Network for Video Salient Object Detection", European Conference on Computer Vision (**ECCV2020**) (**Spotlight, Acceptance 5.0%**)

3. Co-first Author/ Co-Author: ICLR*2, ECCV*2, ICCV*2, CVPR*1, TPAMI*1

Tianyu Hua, Yonglong Tian, **Sucheng Ren**, Hang Zhao, Leonid Sigal, "Self-supervision through random segments with autoregressive coding (randsac)", (**ICLR2023**)

Zihui Xue*, Zhengqi Gao*, **Sucheng Ren***, Hang Zhao, "The Modality Focusing Hypothesis: Towards Understanding Crossmodal Knowledge Distillation", (**ICLR2023**)

Ziyu Yang*, **Sucheng Ren***, Zongwei Wu, Nanxuan Zhao, Junle Wang, Jing Qin, Shengfeng He, "NPF-200: A Multi-Modal Eye Fixation Dataset and Method for Non-Photorealistic Videos", ACM International Conference on Multimedia (**ACM 2023**)

Songhua Liu, Jingwen Ye, **Sucheng Ren**, Xinchao Wang, "Dynast: Dynamic sparse transformer for exemplar-guided image generation", European Conference on Computer Vision (**ECCV2022**)

Zhengqi Gao, Fan-Keng Sun, Mingran Yang, **Sucheng Ren**, Zikai Xiong, Marc Engeler, Antonio Burazer, Linda Wildling, Luca Daniel, Duane S Boning, "Learning from multiple annotator noisy labels via sample-wise label fusion", European Conference on Computer Vision (**ECCV2022**)

Zihui Xue, **Sucheng Ren**, Zhengqi Gao, Hang Zhao "Multimodal Knowledge Expansion", International Conference on Computer Vision (**ICCV2021**)

Tianyu Hua, Wenxiao Wang, Zihui Xue, **Sucheng Ren**, Yue Wang, Hang Zhao "Feature Decorrelation for Self-supervised Learning", International Conference on Computer Vision (**ICCV2021**) (**Oral, Acceptance 3.0%**)

Haoxin Chen, Hanjie Wu, Nanxuan Zhao, **Sucheng Ren**, Shengfeng He "Delving Deep into Many-to-many Attention for Few-shot Video Object Segmentation", IEEE Conference on Computer Vision and Pattern Recognition (**CVPR2021**)

Yongtuo Liu, **Sucheng Ren**, Liangyu Chai, Hanjie Wu, Dan Xu, Jing Qin, Shengfeng He "Reducing spatial labeling redundancy for active semi-supervised crowd counting", IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)

Yongtuo Liu, Dan Xu, **Sucheng Ren**, Hanjie Wu, Hongmin Cai, Shengfeng He, "Fine-grained domain adaptive crowd counting via point-derived segmentation", IEEE International Conference on Multimedia and Expo (**ICME 2023**)

Academic Activities

Now	Reviewer for CVPR, ICCV, ECCV, Neurips, ICML, ICLR, AAAI, MICCAI
2022	Reviewer for CVPR, ICCV, ECCV, Neurips, ICML, AAAI
2021	Teaching Assistant: Machine Learning
2020	Teaching Assistant: Image Processing and Computer Vision
2021	Presenter: "Vision Transformer and its variants" in SCUT computer vision workshop
2020	Presenter: "Deep Generative Model" in SCUT computer vision workshop

Honors & Awards

2023	Star of Tomorrow, recognized as a Top 5% intern at Microsoft Research Asia.
2021	Tencent Scholarship
2021	China National Scholarship for Graduate Student
2021	South China University of Technology scholarship
2020	South China University of Technology scholarship
2019	South China University of Technology scholarship
2017	South China University of Technology scholarship