

Xingyi Yang

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RESEARCH INTEREST

- **Knowledge Efficiency:** Compositional AI, Transfer learning and Model Reuse.
- **Data Efficiency:** Self/Weak/Semi-supervised learning and Learning with synthetic data.
- **Statistical Machine learning:** Generative models, Diffusion Models, Trust-worthy learning.

EDUCATION

National University of Singapore(NUS)

PhD. SP&ML, Electrical and Computer Engineering

Singapore

Sept. 2021-Present

University of California, San Diego(UCSD)

Msc. SIP, Electrical and Computer Engineering, Jacobs School of Engineering

La Jolla, USA

Sept. 2019-Jun. 2021

Southeast University

B.Eng. Computer Engineering

Nanjing, China

Sept. 2015-Jun. 2019

University of Ottawa

Visiting Student, Electrical and Computer Engineering

Ottawa, Canada

Jun. 2018-Sept. 2018

SELECTED PUBLICATIONS

1. **Xingyi Yang**, Xinchao Wang
Diffusion Model as Representation Learner
International Conference on Computer Vision(ICCV 2023).
2. **Xingyi Yang**, Daquan Zhou, Jiashi Feng, Xinchao Wang
Diffusion Probabilistic Model Made Slim
Conference on Computer Vision and Pattern Recognition(CVPR 2023).
3. Xinjiang Wang*, **Xingyi Yang***, Shilong Zhang, Yijiang Li,
Litong Feng, Shijie Fang, Chengqi Lyu, Kai Chen, Wayne Zhang
Consistent-Teacher: Towards Reducing Inconsistent Pseudo-targets in Semi-supervised Object Detection
Conference on Computer Vision and Pattern Recognition(CVPR 2023) * Contributed Equally. (**Highlight**).
4. **Xingyi Yang**, Daquan Zhou, Songhua Liu, Jingwen Ye, Xinchao Wang
Deep Model Reassembly
Conference on Neural Information Processing Systems(NeurIPS 2022) (**Paper Award Nomination**).
5. **Xingyi Yang**, Jingwen Ye, Xinchao Wang
Factorizing Knowledge in Neural Networks
European Conference on Computer Vision(ECCV 2022).
6. **Xingyi Yang**, Muchao Ye, Quanzeng You, Fenglong Ma.
Writing by Memorizing: Hierarchical Retrieval-based Medical Report Generation
Annual Meeting of the Association for Computational Linguistics(ACL 2021) (**Long Oral**).
7. **Xingyi Yang**
Kalman Optimizer for Consistent Gradient Descent
IEEE International Conference on Acoustics, Speech and Signal Processing(ICASSP 2021).

RESEARCH EXPERIENCE

Learning and Vision Lab, National University of Singapore

Research Assistant

Supervisor: Prof. Xinchao Wang

May. 2021-Present

- Deep transfer learning through knowledge factorization and knowledge reassembly.
- Diffusion-based generative models.

AI-for-Healthcare Lab, UC San Diego*Research Assistant***Supervisor: Prof. Pengtao Xie***Oct. 2019-Jun.2021*

- Sample-efficient diagnosis of COVID-19 based on CT slices with self-supervised transfer learning.
- Differentiable search of robust neural architectures.
- Comparative study between self-supervised transfer learning and supervised transfer learning.

Rose-ML-Lab, UC San Diego*Research Intern***Supervisor: Prof. Rose Yu***Jul. 2020-Jun.2021*

- Neural spatiotemporal point process model for irregularly sampled spatiotemporal event forecasting.

Pennsylvania State University*Research Intern***Supervisor: Prof. Fenglong Ma***Jul. 2020-Jun.2021*

- Generate high-fidelity medical reports through hierarchical template retrieval.

Manmohan Chandraker's Lab, UC San Diego*Research Intern***Supervisor: Prof. Manmohan Chandraker***Dec. 2019-March. 2020*

- Recover object height and camera parameters through weakly supervised geometric constraints.
- Implement a probabilistic graphical model for 3D geometry estimation from single image as baseline.

VIVA Lab, University of Ottawa*Research Assistant***Supervisor: Prof. Robert Laganière***Jun. 2018-Sept. 2018*

- Scale-aware YOLOv3 model to solve the scale variation for pedestrian detection.
- Implement [MobileNet-YOLOv3](#) and conduct comparative study of one-stage object detectors on face detection.

Image Processing Lab, Southeast University*Research Assistant***Supervisor: Prof. Yining Hu***May. 2018-Jun. 2019*

- 3D skull-to-face reconstruction from CT slices using Wasserstein generative adversarial network.

PROFRSSIONAL EXPERIENCE

Sensetime Research & Shanghai Artificial Intelligence Lab*Research Intern***Shanghai, China***April. 2021-Aug. 2021*

- Maintain the codebase of [OpenMMLab](#).
- Semi-supervised object detection and image recognition.

Kneron, Inc*Deep Learning Intern***La Jolla, USA***Oct. 2019- Jan. 2020*

- Post-training 8-bit quantization of neural network.

AWARDS AND CERTIFICATES

- CVPR 2023 Travel Grant.
- NeurIPS 2022 Top Reviewer.
- 2th place on CVPR 2022 CLVision Challenge Track 2&Track 3.
- National University of Singapore, Graduate Research Scholarship.
- 12th/2519 place(Defence) on IJACI-19 Alibaba Adversarial Vision Challenge.
- 2018 MCM/ICM Meritorious Winner Prize.

Academic Services

- Co-organizer, Workflow Chair, of NeurIPS 2020 Workshop: Self-Supervised Learning - Theory and Practice.
- Journal Reviewer TIP, PR, TCSVT, JBHI, JVCI, ESWA.
- Conference Reviewer for ICML, NeurIPS, CVPR, ICCV, ECCV, IJCAI, ICASSP.