

# Xingyi Yang

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## RESEARCH INTEREST

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- **Sample-efficient learning:** Self-supervised learning, Weak-supervised learning and Transfer learning
- **Generative models:** Generative adversarial network, Point process, Probabilistic graphical model
- **Robust learning:** Adversarial attack and defense, Domain adaption
- **Machine learning for Healthcare:** Medical image analysis and generation, Medical report generation

## EDUCATION

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### University of California, San Diego(UCSD)

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

GPA: 3.68/4

La Jolla, USA

Sept. 2019- Jun. 2021

### Southeast University

B.Eng. Computer Engineering

GPA: 3.71/4, 88.1/100

Nanjing, China

Sept. 2015-Jun. 2019

### University of Ottawa

Visiting Student, Electrical and Computer Engineering

Ottawa, Canada

Jun. 2018-Sept. 2018

## PUBLICATIONS

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1. **Xingyi Yang**. *Kalman Optimizer for Consistent Gradient Descent*, 2021, IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP 2021**).
2. **Xingyi Yang**, Yong Wang, Robert Laganière. *A scale-aware YOLO model for pedestrian detection*, 2020, International Symposium on Visual Computing (**ISVC 2020**) (Oral).
3. Rui Zhu, **Xingyi Yang**, Yannick Hold-Geoffroy, Federico Perazzi, Jonathan Eisenmann, Kalyan Sunkavalli, Manmohan Chandraker. *Single View Metrology in the Wild*, 2020, 16th European Conference on Computer Vision (**ECCV 2020**).

## PREPRINT

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1. **Xingyi Yang**, Muchao Ye, Quanzeng You, Fenglong Ma. *Writing by Memorizing: Hierarchical Retrieval-based Medical Report Generation*, 2020, Under Review For ACL 2021.
2. Ramtin Hosseini, **Xingyi Yang**, Pengtao Xie. *DSRNA: Differentiable Search of Robust Neural Architectures*, 2020, arXiv:2012.06122, Under Review For CVPR 2021.
3. Zihao Zhou\*, **Xingyi Yang**\*, Xinyi He, Ryan Rossi, Handong Zhao, Rose Yu. *Neural Point Process for Forecasting Spatiotemporal Events*, 2020, Under Review For ICML 2021.
4. **Xingyi Yang**\*, Xuehai He\*, Yuxiao Liang, Yue Yang, Shanghang Zhang, Pengtao Xie. *Transfer Learning or Self-supervised Learning? A Tale of Two Pretraining Paradigms* 2020, arXiv:2007.04234.
5. **Xingyi Yang**, Nandiraju Gireesh, Eric Xing, Pengtao Xie. *XRayGAN: Consistency-preserving Generation of X-ray Images from Radiology Reports*, 2020, arXiv:2006.10552.
6. **Xingyi Yang**, Xuehai He, Jinyu Zhao, Yichen Zhang, Shanghang Zhang, Pengtao Xie. *COVID-CT-Dataset: A CT Scan Dataset about COVID-19*, 2020, arXiv:2003.13865.
7. Wenmian Yang, Guangtao Zeng, Bowen Tan, Zeqian Ju, Subrato Chakravorty, Xuehai He, Shu Chen, **Xingyi Yang**, Qingyang Wu, Zhou Yu, Eric Xing, Pengtao Xie. *On the Generation of Medical Dialogues for COVID-19*, 2020, arXiv:2005.05442, Under Review for ACL 2021.
8. Xuehai He\*, **Xingyi Yang**\*, Shanghang Zhang\*, Jinyu Zhao, Eric Xing and Pengtao Xie. *Sample-Efficient Deep Learning for COVID-19 Diagnosis Based on CT Scans*, 2020, medRxiv 2020.04.13.20063941.

## RESEARCH EXPERIENCE

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### AI-for-Healthcare Lab, UC San Diego

Research Assistant

Supervisor: Prof. Pengtao Xie

Oct. 2019-Present

- Comparative study between self-supervised transfer learning and supervised transfer learning.
- Knowledge grounded generative adversarial network for X-rays generation from radiography reports.
- Sample-efficient diagnosis of COVID-19 based on CT slices with self-supervised transfer learning.

### Rose-ML-Lab, UC San Diego

Research Intern

Supervisor: Prof. Rose Yu

Jul. 2020-Present

- Design a novel Neural Spatiotemporal Point Process model for irregularly sampled spatiotemporal event forecasting, which integrates deep neural networks with spatiotemporal point processes.

### Pennsylvania State University

Research Intern

Supervisor: Prof. Fenglong Ma

Jul. 2020-Present

- Propose to incorporate hierarchical information retrieval to automatically learn both report and sentence-level templates from the data in the medical report generation process.

### 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

- Design 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.
- One-stage remote sensing arbitrary-oriented object detection.

## PROFRSSIONAL EXPERIENCE

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### Sensetime Research

Research Intern (Remote)

Shanghai, China

From Feb. 2021

- Research Intern for maintaining [OpenMMLab](#).

### Kneron, Inc

Deep Learning Intern

La Jolla, USA

Oct. 2019- Jan. 2020

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

### ArcSoft Technology Co., Ltd.

Deep Learning Intern

Nanjing, China

Mar. 2019- May. 2019

- Single-image super-resolution based on semantic segmentation prior.

### Chongqing Yiwoke Science Technology Development Co., Ltd.

Java development intern

Chongqing, China

Jul. 2017- Sept. 2017

- Back-end development of Tianpeng bidding platform.

## AWARDS AND CERTIFICATES

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- 12th/2519 place(Defence) on IJACI-19 Alibaba Adversarial Vision Challenge
- 4th place on Alibaba AI Security Program
- 2018 MCM/ICM Meritorious Winner Prize
- China College Students' Entrepreneurship Competition National Silver Award

## Academic Services

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- Co-organizer, Workflow Chair, of NeurIPS 2020 Workshop: Self-Supervised Learning - Theory and Practice
- Journal Reviewer for IEEE Journal of Biomedical and Health Informatics (JBHI)
- Conference Reviewer for ICCV(2021), CVPR(2021), IJCAI(2021), ICASSP(2020)