

# Xue Yang (杨学)

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Homepage: <https://yangxue0827.github.io>



## Education

2012.09 ~ 2016.07	Central South University, Hunan	<i>Bachelor: Automation</i>
2016.09 ~ 2019.07	University of Chinese Academy of Sciences, Beijing	<i>Master: SIP</i>
2019.09 ~ 2023.07	Shanghai Jiao Tong University, Shanghai	<i>Ph.D.: CSE</i>
(expected)	MoE-AILab, SJTU	<i>Supervisor: <u>Prof. Junchi Yan</u></i>



## Publications

**Publication:** 8 first author papers (TPAMI, IJCV, NeurIPS, ICML, CVPR, ICCV, ECCV, AAAI) **Citation: 1584**

**Reviewer:** NeurIPS, ICML, ECCV, CVPR, AAAI, ACM MM; IJCV, TIP, TCSVT, TGRS

**Google Scholar:** <https://scholar.google.com/citations?user=2xTlvV0AAAAJ&hl=en>

**Github:** <https://github.com/yangxue0827>

### Top-Tier Computer Vision Papers:

1. SCRDet++: Detecting Small, Cluttered and Rotated Objects via Instance-Level Feature Denoising and Rotation Loss Smoothing  
**Xue Yang**, Junchi Yan, Wenlong Liao, Xiaokang Yang, Jin Tang, Tao He  
TPAMI, 2022
2. On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
**Xue Yang**, Junchi Yan  
IJCV, 2022
3. Learning High-Precision Bounding Box for Rotated Object Detection via Kullback-Leibler Divergence  
**Xue Yang**, Xiaojiang Yang, Jirui Yang, Qi Ming, Wentao Wang, Qi Tian, Junchi Yan  
NeurIPS 2021
4. Rethinking Rotated Object Detection with Gaussian Wasserstein Distance Loss  
**Xue Yang**, Junchi Yan, Qi Ming, Wentao Wang, Xiaopeng Zhang, Qi Tian  
ICML 2021
5. Dense Label Encoding for Boundary Discontinuity Free Rotation Detection  
**Xue Yang**, Liping Hou, Yue Zhou, Wentao Wang, Junchi Yan  
CVPR 2021
6. R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object  
**Xue Yang**, Junchi Yan, Ziming Feng, Tao He  
AAAI 2021 (**Most Influential AAAI'21 Paper, Top 1, Paper Digest**)
7. Arbitrary-Oriented Object Detection with Circular Smooth Label  
**Xue Yang**, Junchi Yan  
ECCV 2020
8. SCRDet: Towards More Robust Detection for Small, Cluttered and Rotated Objects  
**Xue Yang**, Jirui Yang, Junchi Yan, Yue Zhang, Tengfei Zhang, Zhi Guo, Sun Xian, Kun Fu  
ICCV 2019
9. Automatic Ship Detection in Remote Sensing Images from Google Earth of Complex Scenes Based on Multiscale Rotation Dense Feature Pyramid Networks  
**Xue Yang**, Hao Sun, Kun Fu, Jirui Yang, Xian Sun, Menglong Yan, Zhi Guo  
Remote Sensing, 2018 (**ESI Highly Cited Papers**)
10. Learning Modulated Loss for Rotated Object Detection  
Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Yue Guo

## AAAI 2021 (**Most Influential AAAI'21 Paper, Top 10, Paper Digest**)

11. Dual-path Image Inpainting with Auxiliary GAN Inversion  
Wentao Wang, Li Niu, Jianfu Zhang, **Xue Yang**, Liqing Zhang  
CVPR 2022
12. Parallel Multi-Resolution Fusion Network for Image Inpainting  
Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang  
ICCV 2021
13. Optimization for Oriented Object Detection via Representation Invariance Loss  
Qi Ming, Zhiqiang Zhou, Lingjuan Miao, **Xue Yang**, Yunpeng Dong  
GRSL 2021
14. Rethinking Classification and Localization for Cascade R-CNN  
Ang Li, **Xue Yang**, Chongyang Zhang  
BMVC 2019

### Preprints:

1. AlphaRotate: A Rotation Detection Benchmark using TensorFlow  
**Xue Yang**, Junchi Yan
2. The KFIoU Loss for Rotated Object Detection  
**Xue Yang**, Yue Zhou, Gefan Zhang, Jirui Yang, Wentao Wang, Junchi Yan, Xiaopeng Zhang, Qi Tian



## Internship

2022.02 ~ Now	<b>EI Innovation Lab, Huawei Cloud BU, Shanghai</b> Working with Prof. Qi Tian and Dr. Xiaopeng Zhang on contrastive learning.	 HUAWEI
2020.10 ~ 2021.07	<b>EI Innovation Lab, Huawei Cloud BU, Shenzhen</b> Working with Prof. Qi Tian and Dr. Xiaopeng Zhang on rotated object detection, two papers are accepted by ICML 2021 and NeurIPS 2021.	 HUAWEI
2018.12 ~ 2019.07	<b>Detection Group, Megvii (Face++) Research, Beijing</b> Working with Dr. Gang Yu on detection algorithms.	 MEGVII 旷视
2017.04 ~ 2017.06	<b>Samsung R&amp;D Institute China, Beijing</b>	 SAMSUNG



## Awards and Honors

2021	Nominated by SJTU Scholar Star
2021	Top 40 in the ninth Baidu Scholarship
2021	National Scholarship
2019	Wu Wen Jun Honorary Doctoral Scholarship
2019	<b>1<sup>st</sup> Place</b> in WAD2019 Challenge on the D <sup>2</sup> -City & BDD100K Detection Domain Adaption track
2019	<b>3<sup>rd</sup>/4<sup>th</sup> Place</b> in DOAI2019 Challenge on the HBB/OBB track
2016-2019	Outstanding Student Leader, Outstanding Student, <b>Second Prize</b> in PMCM (2017)
2012-2016	Outstanding Student Leader, Outstanding Student, Outstanding Graduates, National Inspirational Scholarship, <b>Honorable Mention</b> in MCM/ICM (2015), <b>Second Prize</b> in APMCM (2016)



## Academic Projects

1. **AlphaRotate: A Rotation Detection Benchmark using TensorFlow**  
Github (856 star): <https://github.com/yangxue0827/RotationDetection>  
AlphaRotate is an open source rotation detection toolbox based on Tensorflow.
2. **MMRotate : A Rotated Object Detection Benchmark using PyTorch**  
Github (551 star): <https://github.com/open-mmlab/mmrrotate>  
AlphaRotate is an open source rotation detection toolbox based on Pytorch.
3. **DetectionTeamUCAS**  
Github (2.3k star): <https://github.com/DetectionTeamUCAS>

It contains many general detection and rotation detection algorithms that reimplemented by myself.

**4. R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object**

Github (710 star): [https://github.com/Thinklab-SJTU/R3Det\\_Tensorflow](https://github.com/Thinklab-SJTU/R3Det_Tensorflow)

<https://github.com/SJTU-Thinklab-Det/r3det-on-mmdetection>

<https://github.com/SJTU-Thinklab-Det/r3det-pytorch>

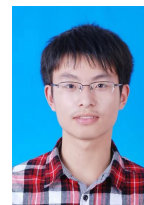
A novel refined rotation detector accepted by AAAI 2021.

# 杨学 (Xue Yang)

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## 教育背景

2012.09 ~ 2016.07	中南大学, 湖南	本科: 自动化
2016.09 ~ 2019.07	中国科学院大学, 北京	硕士: 信号与信息处理
2019.09 ~ 2023.07	上海交通大学, 上海	博士: 计算机科学与技术
(预计)	上海交通大学人工智能研究院	导师: 严骏驰副教授

## 学术成果

发表文章数量: 8 篇一作论文 (TPAMI, IJCV, NeurIPS, ICML, CVPR, ICCV, ECCV, AAAI). 引用量: 1584

审稿人: NeurIPS, ICML, ECCV, CVPR, AAAI, ACM MM; IJCV, TIP, TCSVT, TGRS

谷歌学术: <https://scholar.google.com/citations?user=2xTlvV0AAAAJ&hl=zh-CN>

Github: <https://github.com/yangxue0827>

已发表文章:

- SCRDet++: Detecting Small, Cluttered and Rotated Objects via Instance-Level Feature Denoising and Rotation Loss Smoothing  
**Xue Yang**, Junchi Yan, Wenlong Liao, Xiaokang Yang, Jin Tang, Tao He  
TPAMI, 2022
- On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
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IJCV 2022
- Learning High-Precision Bounding Box for Rotated Object Detection via Kullback-Leibler Divergence  
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NeurIPS 2021
- Rethinking Rotated Object Detection with Gaussian Wasserstein Distance Loss  
**Xue Yang**, Junchi Yan, Qi Ming, Wentao Wang, Xiaopeng Zhang, Qi Tian  
ICML 2021
- Dense Label Encoding for Boundary Discontinuity Free Rotation Detection  
**Xue Yang**, Liping Hou, Yue Zhou, Wentao Wang, Junchi Yan  
CVPR 2021
- R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object  
**Xue Yang**, Junchi Yan, Ziming Feng, Tao He  
AAAI 2021 (入选 **Paper Digest** 评选的最具影响力的 AAAI'21 论文第 1 名)
- Arbitrary-Oriented Object Detection with Circular Smooth Label  
**Xue Yang**, Junchi Yan  
ECCV 2020
- SCRDet: Towards More Robust Detection for Small, Cluttered and Rotated Objects  
**Xue Yang**, Jirui Yang, Junchi Yan, Yue Zhang, Tengfei Zhang, Zhi Guo, Sun Xian, Kun Fu  
ICCV 2019
- Automatic Ship Detection in Remote Sensing Images from Google Earth of Complex Scenes Based on Multiscale Rotation Dense Feature Pyramid Networks  
**Xue Yang**, Hao Sun, Kun Fu, Jirui Yang, Xian Sun, Menglong Yan, Zhi Guo  
Remote Sensing, 2018 (**ESI 高被引论文**)
- Learning Modulated Loss for Rotated Object Detection  
Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Yue Guo  
AAAI 2021 (入选 **Paper Digest** 评选的最具影响力的 AAAI'21 论文第 10 名)





11. Dual-path Image Inpainting with Auxiliary GAN Inversion  
Wentao Wang, Li Niu, Jianfu Zhang, **Xue Yang**, Liqing Zhang  
CVPR 2022
12. Parallel Multi-Resolution Fusion Network for Image Inpainting  
Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang  
ICCV 2021
13. Optimization for Oriented Object Detection via Representation Invariance Loss  
Qi Ming, Zhiqiang Zhou, Lingjuan Miao, **Xue Yang**, Yunpeng Dong  
GRSL 2021
14. Rethinking Classification and Localization for Cascade R-CNN  
Ang Li, **Xue Yang**, Chongyang Zhang  
BMVC 2019

预印文章:

1. AlphaRotate: A Rotation Detection Benchmark using TensorFlow  
**Xue Yang**, Junchi Yan
2. The KFIoU Loss for Rotated Object Detection  
**Xue Yang**, Yue Zhou, Gefan Zhang, Jirui Yang, Wentao Wang, Junchi Yan, Xiaopeng Zhang, Qi Tian



## 实习经历

- |                   |   |   |
|-------------------|---|---|
| 2022.02 ~ 现在      | 华为云, EI 创新孵化实验室, 上海<br>在田奇教授和张晓鹏博士指导下研究自监督学习。                           |  HUAWEI      |
| 2020.10 ~ 2021.07 | 华为云, EI 创新孵化实验室, 深圳<br>在田奇教授和张晓鹏博士指导下研究旋转目标检测, 并发表ICML2021和NeurIPS2021。 |  HUAWEI     |
| 2018.12 ~ 2019.07 | 旷世科技, 检测组, 北京<br>在俞刚博士指导下从事目标检测算法的研究。                                   |  MEGVII 旷视 |
| 2017.04 ~ 2017.06 | 中国三星电子研究院, 北京   |  SAMSUNG   |



## 获奖荣誉

- |           |   |
|-----------|---|
| 2021      | 上海交通大学“学术之星”提名奖   |
| 2021      | 百度奖学金全球 40 强  |
| 2021      | 国家奖学金   |
| 2019      | 吴文俊荣誉博士奖学金  |
| 2019      | WAD2019 D <sup>2</sup> -City & BDD100K 检测域自适应赛道挑战赛第一名                                   |
| 2019      | DOAI2019 挑战赛 HBB/OBB 赛道第 3/4 名  |
| 2016-2019 | 优秀学生干部, 三好学生, 研究生数学建模比赛(PMCM, 2017)二等奖  |
| 2012-2016 | 优秀学生干部, 三好学生, 优秀毕业生, 国家励志奖学金, 美国大学生数学建模竞赛二等奖(MCM/ICM, 2015), 亚太地区大学生数学建模竞赛(APMCM, 2016) |



## 学术项目

1. **AlphaRotate: A Rotation Detection Benchmark using TensorFlow**  
Github (856 star): <https://github.com/yangxue0827/RotationDetection>  
AlphaRotate 是一个基于 Tensorflow 的开源旋转检测工具箱。
2. **MMRotate : A Rotated Object Detection Benchmark using PyTorch**  
Github (551 star): <https://github.com/open-mmlab/mmrrotate>  
AlphaRotate 是一个基于 Pytorch 的开源旋转检测工具箱。
3. **DetectionTeamUCAS**  
Github (2.3k star): <https://github.com/DetectionTeamUCAS>  
该账号包含许多由本人重新实现的通用检测和旋转检测算法。
4. **R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object**

Github (710 star): [https://github.com/Thinklab-SJTU/R3Det\\_Tensorflow](https://github.com/Thinklab-SJTU/R3Det_Tensorflow)

<https://github.com/SJTU-Thinklab-Det/r3det-on-mmdetection>

<https://github.com/SJTU-Thinklab-Det/r3det-pytorch>

一种新颖的精修旋转检测器，发表于 AAAI2021。