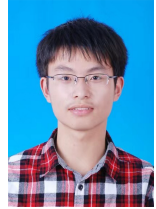


# Xue Yang (杨学)

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



## Education

2012.09 ~ 2016.07	Central South University (985/211), 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 (985/211), Shanghai	<i>Ph.D.: CSE</i>
(expected)	MoE-AI Lab, SJTU, Shanghai	<i>Supervisor: <u>Prof. Junchi Yan</u></i>
	(First Wu Wenjun AI Honorary Doctorate Class)	



## Publications

**Publication:** 13 first author papers

**Reviewer:** NeurIPS, ICML, CVPR, ICCV, ECCV, AACL, ACM MM; TPAMI, IJCV, TIP, PR, TCSVT, TGRS

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

**Citation:** 2748

**GitHub:** <https://github.com/yangxue0827>, <https://github.com/DetectionTeamUCAS>

**Selected Top-Tier Computer Vision Papers:**

1. H2RBox: Horizontal Box Annotation is All You Need for Oriented Object Detection  
**Xue Yang**, Gefan Zhang, Wentong Li, Xuehui Wang, Yue Zhou, Junchi Yan  
ICLR 2023 (Tsinghua-A)
2. The KFIOU Loss for Rotated Object Detection  
**Xue Yang**, Yue Zhou, Gefan Zhang, Jirui Yang, Wentao Wang, Junchi Yan, Xiaopeng Zhang, Qi Tian  
ICLR 2023 (Tsinghua-A)
3. Detecting Rotated Objects as Gaussian Distributions and Its 3-D Generalization  
**Xue Yang**, Gefan Zhang, Xiaojiang Yang, Yue Zhou, Wentao Wang, Jin Tang, Tao He, Junchi Yan  
TPAMI 2022 (CCF-A)
4. MMRotate: A Rotated Object Detection Benchmark using PyTorch  
Yue Zhou\*, **Xue Yang\*** (equal contribution), Gefan Zhang, Jiabao Wang, Yanyi Liu, Liping Hou, Xue Jiang, Xingzhao Liu, Junchi Yan, Chengqi Lyu, Wenwei Zhang, Kai Chen  
ACM MM 2022 (CCF-A, **Oral**)
5. 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 (CCF-A)
6. On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
**Xue Yang**, Junchi Yan  
IJCV 2022 (CCF-A)
7. 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 (CCF-A)
8. Rethinking Rotated Object Detection with Gaussian Wasserstein Distance Loss  
**Xue Yang**, Junchi Yan, Qi Ming, Wentao Wang, Xiaopeng Zhang, Qi Tian  
ICML 2021 (CCF-A)
9. Dense Label Encoding for Boundary Discontinuity Free Rotation Detection  
**Xue Yang**, Liping Hou, Yue Zhou, Wentao Wang, Junchi Yan  
CVPR 2021 (CCF-A)
10. 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 (CCF-A) **(Most Influential AAAI'21 Paper, Top 1, Paper Digest)**

11. Arbitrary-Oriented Object Detection with Circular Smooth Label

**Xue Yang**, Junchi Yan

ECCV 2020 (CCF-B, Tsinghua-A)

12. 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 (CCF-A)

13. 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)**

14. PatchDCT: Patch Refinement for High Quality Instance Segmentation

Qinrou Wen, Jirui Yang, **Xue Yang**, Kewei Liang

ICLR 2023 (Tsinghua-A)

15. Learning Modulated Loss for Rotated Object Detection

Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Yue Guo

AAAI 2021 (CCF-A) **(Most Influential AAAI'21 Paper, Top 10, Paper Digest)**

16. RSDet++: Point-based Modulated Loss for More Accurate Rotated Object Detection

Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Xiujuan Zhang

TCSVT 2022 (CCF-B)

17. Rethinking Classification and Localization for Cascade R-CNN

Ang Li, **Xue Yang**, Chongyang Zhang

BMVC 2019 (CCF-C)

18. Dual-path Image Inpainting with Auxiliary GAN Inversion

Wentao Wang, Li Niu, Jianfu Zhang, **Xue Yang**, Liqing Zhang

CVPR 2022 (CCF-A)

19. Parallel Multi-Resolution Fusion Network for Image Inpainting

Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang

ICCV 2021 (CCF-A)

20. PVT-SAR: An Arbitrarily Oriented SAR Ship Detector with Pyramid Vision Transformer

Yue Zhou, Xue Jiang, Guozheng Xu, **Xue Yang**, Xingzhao Liu

JSTARS 2022

21. Task Interleaving and Orientation Estimation for High-Precision Oriented Object Detection in Aerial Images

Qi Ming, Lingjuan Miao, Zhiqiang Zhou, Junjie Song, Yunpeng Dong, **Xue Yang**

ISPRS 2023

22. G-Rep: Gaussian Representation for Arbitrary-Oriented Object Detection

Liping Hou, Ke Lu, **Xue Yang**, Yuqiu Li, Jian Xue

Remote Sensing 2023

#### Preprints:

1. AlphaRotate: A Rotation Detection Benchmark using TensorFlow

**Xue Yang**, Yue Zhou, Junchi Yan



## Internship

2022.02 ~ 2023.01 **EI Innovation Lab, Huawei Cloud BU, Shanghai**



Working with Prof. Qi Tian and Dr. Xiaopeng Zhang on pre-training model and generic /object detection, one paper is accepted by ICLR 2023.

2020.10 ~ 2021.07 **EI Innovation Lab, Huawei Cloud BU, Shenzhen**



Working with Prof. Qi Tian and Dr. Xiaopeng Zhang on generic/oriented object

detection, two papers are accepted by ICML 2021 and NeurIPS 2021.

2018.12 ~ 2019.07 **Detection Group, Megvii (Face++) Research, Beijing**



Working with Dr. Gang Yu on detection algorithms.

2017.04 ~ 2017.07 **Samsung R&D Institute China, Beijing**



## Awards and Honors

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2022	CCF-CV Academic Emerging Scholar (only three winners in China)
2022	Doctoral National Scholarship
2021	Nominated by SJTU Scholar Star (10 official and 10 nomination awards in SJTU)
2021	Top 40 in the ninth Baidu Scholarship
2021	Doctoral National Scholarship (Top 1 in CSE)
2019	Wu Wenjun Artificial Intelligence PhD 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)



## Open Source Projects

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**All my open source projects on GitHub have accumulated more than 7,000 stars, Some major open source projects are as follow:**

**1. AlphaRotate: A Rotation Detection Benchmark using TensorFlow**

Github (972 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 (1.2k star): <https://github.com/open-mmlab/mmrrotate>

MMRotate is an open source rotation detection toolbox based on PyTorch.

**3. DetectionTeamUCAS**

Github (2.5k star): <https://github.com/DetectionTeamUCAS>

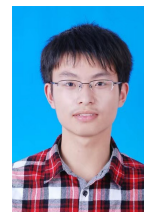
It contains many general detection and rotation detection algorithms that reimplemented by myself.

# 杨学 (Xue Yang)

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主页: <https://yangxue0827.github.io>



## 教育背景

2012.09 ~ 2016.07	中南大学 (985/211), 湖南	本科: 自动化
2016.09 ~ 2019.07	中国科学院大学, 北京	硕士 (保研): 信号与信息处理
2019.09 ~ 2023.07	上海交通大学 (985/211), 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, 上海	导师: 严骏驰副教授
	(首届吴文俊人工智能荣誉博士班成员)	



## 学术成果

发表文章数量: CCF-A/清华-A 类第一作者论文 12 篇

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

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

引用量: 2748

GitHub: <https://github.com/yangxue0827>, <https://github.com/DetectionTeamUCAS>

部分已发表文章:

1. H2RBox: Horizontal Box Annotation is All You Need for Oriented Object Detection  
**Xue Yang**, Gefan Zhang, Wentong Li, Xuehui Wang, Yue Zhou, Junchi Yan  
ICLR 2023 (清华 A)
2. The KFIOU Loss for Rotated Object Detection  
**Xue Yang**, Yue Zhou, Gefan Zhang, Jirui Yang, Wentao Wang, Junchi Yan, Xiaopeng Zhang, Qi Tian  
ICLR 2023 (清华 A)
3. Detecting Rotated Objects as Gaussian Distributions and Its 3-D Generalization  
**Xue Yang**, Gefan Zhang, Xiaojiang Yang, Yue Zhou, Wentao Wang, Jin Tang, Tao He, Junchi Yan  
TPAMI 2022 (CCF-A)
4. 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  
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5. On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
**Xue Yang**, Junchi Yan  
IJCV 2022 (CCF-A)
6. MMRotate: A Rotated Object Detection Benchmark using PyTorch  
Yue Zhou\*, **Xue Yang\*** (共同一作), Gefan Zhang, Jiabao Wang, Yanyi Liu, Liping Hou, Xue Jiang, Xingzhao Liu, Junchi Yan, Chengqi Lyu, Wenwei Zhang, Kai Chen  
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7. 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 (CCF-A)
8. Rethinking Rotated Object Detection with Gaussian Wasserstein Distance Loss  
**Xue Yang**, Junchi Yan, Qi Ming, Wentao Wang, Xiaopeng Zhang, Qi Tian  
ICML 2021 (CCF-A)
9. Dense Label Encoding for Boundary Discontinuity Free Rotation Detection  
**Xue Yang**, Liping Hou, Yue Zhou, Wentao Wang, Junchi Yan  
CVPR 2021 (CCF-A)
10. 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 (CCF-A) (入选 Paper Digest 评选的最具影响力的 AAAI'21 论文第 1 名)




11. Arbitrary-Oriented Object Detection with Circular Smooth Label  
**Xue Yang**, Junchi Yan  
ECCV 2020 (CCF-B, 清华 A)
12. 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 (CCF-A)
13. 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)
14. PatchDCT: Patch Refinement for High Quality Instance Segmentation  
Qinrou Wen, Jirui Yang, **Xue Yang**, Kewei Liang  
ICLR 2023 (清华 A)
15. Learning Modulated Loss for Rotated Object Detection  
Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Yue Guo  
AAAI 2021 (CCF-A) (入选 Paper Digest 评选的最具影响力的 AAAI'21 论文第 10 名)
16. RSDet++: Point-based Modulated Loss for More Accurate Rotated Object Detection  
Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Xiujuan Zhang  
TCSVT 2022 (CCF-B)
17. Rethinking Classification and Localization for Cascade R-CNN  
Ang Li, **Xue Yang**, Chongyang Zhang  
BMVC 2019 (CCF-C)
18. Dual-path Image Inpainting with Auxiliary GAN Inversion  
Wentao Wang, Li Niu, Jianfu Zhang, **Xue Yang**, Liqing Zhang  
CVPR 2022 (CCF-A)
19. Parallel Multi-Resolution Fusion Network for Image Inpainting  
Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang  
ICCV 2021 (CCF-A)
20. PVT-SAR: An Arbitrarily Oriented SAR Ship Detector with Pyramid Vision Transformer  
Yue Zhou, Xue Jiang, Guozheng Xu, **Xue Yang**, Xingzhao Liu  
JSTARS 2022
21. Task Interleaving and Orientation Estimation for High-Precision Oriented Object Detection in Aerial Images  
Qi Ming, Lingjuan Miao, Zhiqiang Zhou, Junjie Song, Yunpeng Dong, **Xue Yang**  
ISPRS 2023
22. G-Rep: Gaussian Representation for Arbitrary-Oriented Object Detection  
Liping Hou, Ke Lu, **Xue Yang**, Yuqiu Li, Jian Xue  
Remote Sensing 2023

#### 预印文章:

1. AlphaRotate: A Rotation Detection Benchmark using TensorFlow  
**Xue Yang**, Yue Zhou, Junchi Yan



## 实习经历

- |                   |   |   |
|-------------------|---|---|
| 2022.02 ~ 2023.01 | 华为云, EI 创新孵化实验室, 上海                                 |  HUAWEI    |
|                   | 在田奇教授和张晓鹏博士指导下研究大规模预训练模型, 并发表一篇 ICLR2023。           |   |
| 2020.10 ~ 2021.07 | 华为云, EI 创新孵化实验室, 深圳                                 |  HUAWEI    |
|                   | 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。 |   |
| 2018.12 ~ 2019.07 | 旷视科技, 检测组, 北京                                       |  MEGVII 旷视 |
|                   | 在俞刚博士指导下从事目标检测算法的研究。                                |   |



## 获奖荣誉

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2022	CCF-CV 学术新锐学者（全国仅 3 人）
2022	博士生国家奖学金
2021	上海交通大学“学术之星”提名奖（全校共 10 个正式奖和 10 个提名奖）
2021	百度奖学金全球 40 强
2021	博士生国家奖学金（计算机系第一）
2019	吴文俊人工智能博士奖学金（每届全校共 20 余人）
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二等奖(PMCM, 2017)
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二等奖(APMCM, 2016)



## 开源项目

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本人在 GitHub 上所有的开源项目积累超过了 7,000 多个 star，一些主要的开源项目如下：

- AlphaRotate: A Rotation Detection Benchmark using TensorFlow**  
Github (972 star): <https://github.com/yangxue0827/RotationDetection>  
AlphaRotate 是一个基于 TensorFlow 的开源旋转检测工具箱。
- MMRotate: A Rotated Object Detection Benchmark using PyTorch**  
Github (1.2k star): <https://github.com/open-mmlab/mmrrotate>  
MMRotate 是一个基于 PyTorch 的开源旋转检测工具箱。
- DetectionTeamUCAS**  
Github (2.5k 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。