

# 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:** 7 first author papers (IJCV, NeurIPS, ICML, CVPR, ICCV, ECCV, AAAI).

**Citation:** 1334

**Reviewer:** CVPR, AAAI, ACM MM; IJCV, TIP, TCSVT, TITS, GRSL, TGRS

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

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

### Top-Tier Computer Vision Papers:

- On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
**Xue Yang**, Junchi Yan  
IJCV 2022
- 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
- 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
- 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 Highly Cited Papers**)
- Learning Modulated Loss for Rotated Object Detection  
Wen Qian, **Xue Yang**, Silong Peng, Junchi Yan, Yue Guo  
AAAI 2021
- Parallel Multi-Resolution Fusion Network for Image Inpainting  
Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang  
ICCV 2021




11. Optimization for Oriented Object Detection via Representation Invariance Loss  
Qi Ming, Zhiqiang Zhou, Lingjuan Miao, **Xue Yang**, Yunpeng Dong  
GRSL 2021
12. 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. 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
3. The KFIoU Loss for Rotated Object Detection  
**Xue Yang**, Yue Zhou, Gefan Zhang, Jirui Yang, Wentao Wang, Junchi Yan, Xiaopeng Zhang, Qi Tian



## Internship

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



## 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 (753 star): <https://github.com/yangxue0827/RotationDetection>  
AlphaRotate is an open source rotation detection toolbox based on Tensorflow.
2. **DetectionTeamUCAS**  
Github (2.3k star): <https://github.com/DetectionTeamUCAS>  
It contains many general detection and rotation detection algorithms that reimplemented by myself.
3. **R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object**  
Github (700 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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主页: <https://yangxue0827.github.io>



## 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: 7 篇一作论文 (IJCV, NeurIPS, ICML, CVPR, ICCV, ECCV, AAAI).

引用量: 1334

审稿人: CVPR, AAAI, ACM MM; IJCV, TIP, TCSVT, TITS, GRSL, 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:

- On the Arbitrary-Oriented Object Detection: Classification based Approaches Revisited  
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IJCV 2022
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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  
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CVPR 2021
- R<sup>3</sup>Det: Refined Single-Stage Detector with Feature Refinement for Rotating Object  
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- SCRDet: Towards More Robust Detection for Small, Cluttered and Rotated Objects  
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ICCV 2019
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**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
- Parallel Multi-Resolution Fusion Network for Image Inpainting  
Wentao Wang, Jianfu Zhang, Li Niu, Haoyu Ling, **Xue Yang**, Liqing Zhang  
ICCV 2021
- Optimization for Oriented Object Detection via Representation Invariance Loss

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

GRSL 2021

## 12. 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. 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

#### 3. 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

2020.10 ~ 2021.07 华为云, EI 创新孵化实验室, 深圳



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 旷世科技, 检测组, 北京



在俞刚博士指导下从事目标检测算法的研究。

2017.04 ~ 2017.06 中国三星电子研究院, 北京



## 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 (753 star): <https://github.com/yangxue0827/RotationDetection>

AlphaRotate 是一个基于 Tensorflow 的开源旋转检测工具箱。

### 2. 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。

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

Github (700 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。