

MiaoDX

缪东旭

Graduate Student,  
Self-motivated Developer



+86 13502009660



miaodx@tju.edu.cn



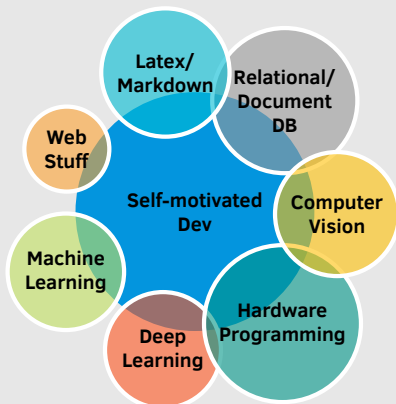
<https://github.com/MiaoDX>



<https://miaodx.github.io/>

## Skills

### Overview



### Programming

0 LOC —————> 5000 LOC

OpenCV • Python • Markdown

C++ • Raspberry Pi • Arduino

Java • JS • HTML

## Experience

### TJU RM Member

CV, DL methods on object detection, tracking and decision making.

### Teaching Assistant

Programming Design Practice I, full English course for freshmen.

### Teaching Python101

Teaching python for several overseas master candidates majoring in finance.

### Volunteer Teacher

Volunteered to teach in one primary school in TongChuan, Shaanxi, organized by “Dripping Action” (one project of Mutualistic Symbiosis Community of Youths & Environment, Shaanxi).

## Education

2016 - Now **MSe., Computer Software**

2012 - 2016 **BEng., Computer Software**

**Tianjin University**

**Xidian University**

## Papers

- Jan 2018 **Paper Accpeted by ICASSP 2018 (First Author)**  
ACTIVE CAMERA RELOCALIZATION WITH RGBD CAMERA FROM A SINGLE 2D IMAGE
- Mar 2018 **Paper Accpeted by ICME 2018 (Oral)**  
Fast and Reliable Computational Rephotography on Mobile Device

## Projects & Work

More can be found at <https://github.com/MiaoDX/>

- July 2018 - Present **Intern at Horizon Robotics**  
Perception algorithm engineer intern under the Department of Autonomous Driving. Working on traffic modelling, DL, label tool and vanishing point based lane detection.
- Jan 2018 - May 2018 **ICRA 2018 DJI ROBOMASTER AI CHALLENGE** [github.com/TJU-RM](https://github.com/TJU-RM)  
Took part in ICRA 2018 DJI RM AI CHALLENGE with other five teammates from TJU. In charge of object detection and tracking. Got the finalist invitation.
- Mar 2016 - Present **Active Camera Relocalization**  
Actively relocate camera to previous pose is one fundamental research area in robotics and computer vision. Major part of my undergraduate graduation and conference papers.
- Python **Data Labelling tool for ML/DL** [DataLabel](#)  
Data labelling tool to make the work less tedious with tracking methods underneath. Export file for DLIB and Darkflow.
- Virtual Env **UnrealCV with Deep Learning (Faster-RCNN)** [UnrealCV & DL](#)  
Integrate (smallcorgi/Faster-RCNN\_TF) with virtual environment library UnrealCV. Exploring the potential benefits of synthetic data on improving exisiting DL implements.
- Python **PacMan capture the flag with Reinforcement Learning** [PacMan & RL](#)  
Some reinforcement projects on pacman capture the flag game, with fundamental concepts and a contest hold in class.
- OpenCV **Restful depth camera** [Depth\\_camera & http](#)  
Expose one stereo camera (ZED) into restful one, so that it can be accessed from other programming languages with ease.
- Python **UCI Adult database processing with scikit-learn** [scikit\\_learning](#)  
Use sklearn to predict whether income exceeds \$50K/yr based on census data, got best result in class (85%+ precision).
- Java **Back propagation implementation using java** [BP\\_java](#)  
It helps a lot to understand DL by implementing ANN from scratch before diving into those open source ML(DL) libraries.

## Scholarships & Awards

- 2017-2018 **Second-class School Scholarship**
- 2016-2017 **First-class School Scholarship**
- Oct 2016 **Postgraduate recommendation offer from Tianjin University**
- 2014-2015 **National Inspiration Scholarship**
- 2014CUMCM**Second-class prize in Shaanxi Division**
- 2013-2014 **Second-class School Scholarship**
- 2012-2013 **First-class School Scholarship**

## Personal

CET-6 Passed (460), English as working language  
Reading, Running, Cycling, Boxing

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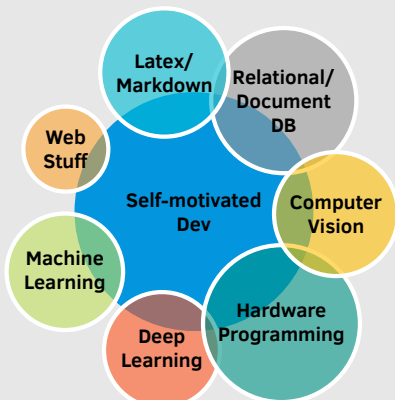
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## Skills

### Overview



### Programming

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C++ • C • Arduino

Java • JS • HTML

## Experience

### TJU RM 成员

算法组成员，基于视觉、深度学习方法的物体检测与跟踪

### 研究生助教

大一新生程序设计实践 I 助教，教授为外籍老师，课程全英文教学

### Python 101

为几位已申请到国外高校的金融专业准硕士/博士准备的 python 课程

### 志愿者教师

“滴水行动”，与队友一起在陕西省铜川市一山村小学志愿教学，活动由陕西青年与环境互助网络组织进行

## 教育背景

2016 - Now 硕士 软件工程 计算机视觉

2012 - 2016 学士 软件工程

天津大学

西安电子科技大学

## 会议文章

- Jan 2018 **ICASSP 2018, CCF-B 类会议接收 (第一作者)**  
ACTIVE CAMERA RELOCALIZATION WITH RGBD CAMERA FROM A SINGLE 2D IMAGE
- Mar 2018 **ICME 2018, CCF-B 类会议接收 (Oral)**  
Fast and Reliable Computational Rephotography on Mobile Device

## 项目经验

列举部分近期项目，更多的请访问 [github 主页](#) [github.com/MiaoDX](https://github.com/MiaoDX)

- July 2018 - Present 地平线机器人 (Horizon Robotics) 实习  
自动驾驶研发部门感知算法工程师实习生，工作内容涉及交通流建模、深度学习、标注工具、基于消失点的车道线检测等。
- Jan 2018 - May 2018 **ICRA 2018 DJI ROBOMASTER 人工智能挑战赛**  
搭建全自动智能车与大疆官方的 AI 智能车进行对抗。主要负责视觉算法，物体识别、跟踪及部分决策模块。(Finalist invitation)
- Mar 2016 - Present 主动相机位姿重定位  
主动地将相机位姿重定位到参考位置是机器人学与计算机视觉一基础研究领域，支撑了本科毕设与会议论文。
- Python 机器学习/深度学习 数据标注工具 DataLabel  
Data Label 物体检测数据标注工具，利用跟踪算法大幅减少手工标注的需求量，可用于输出 Dlib 与 Darkflow 适用的物体检测训练配置文件。
- Virtual Env DL UnrealCV 与深度学习结合 (Faster-RCNN) UnrealCV & DL  
将 smallcorgi/Faster-RCNN\_TF 集成到 UnrealCV 上，探究通过虚拟环境生成的合成数据来提升现有深度学习实现的可能性。
- Python RL 增强学习应用到吃豆人游戏 PacMan & RL  
整理了增强学习的一些基础知识，并将其应用到吃豆人游戏中，在高级人工智能结课比赛中取得较好成绩。
- OpenCV Restful 深度相机 Depth\_camera & http  
Flask 将一双目深度相机 (ZED) 扩展成为 Restful 服务，能被不同编程语言调用，省去了为每种语言进行 SDK 移植的麻烦。
- Python ML 利用 sklearn 库处理 UCI Adult 数据集 scikit\_learning  
ML 基于人口调查结果，使用 sklearn 机器学习库来预测收入是否超过 \$50K/yr，这是一典型的分类问题，达到 85%+ 的精度。
- Java BP 使用 Java 实现反向传播算法 BP\_java  
BP 在使用流行的开源 ML(DL) 库前，能够先从头实现一些基本的组件是很重要的，可以对其理论基础与运算机理有更深入的了解。
- Node.js 考勤管理系统 Attendance system  
MongoDB 为一 (模拟) 公司实现基于 RESTful 接口的考勤管理系统。公司成员可以经由系统申请休假并等待批准，同时可以查询由系统整理得到的历史统计数据。

## 荣誉奖励

- 2017-2018 校级二等奖学金
- 2016-2017 校级一等奖学金
- Oct 2016 研究生推免至天津大学软件学院
- 2014-2015 国家励志奖学金
- 2014CUMCM全国大学生数学建模竞赛，陕西赛区二等奖
- 2013-2014 校级二等奖学金
- 2012-2013 校级一等奖学金

## 其他信息

Passed CET-6, English as working language

阅读 跑步 拳击 骑行