



## education

### master of software engineering

2018.09-2020.06

Beijing Institute of Technology

(Affiliation to the Ministry of industry & information technology of China)

- GPA: 3.44/4.00
- avg score: 85/100
- research: video understanding, GAN, object detection
- Supervisor: Prof. Guangyu Gao
- Mentors: Prof. Kai Qin, (SUT, AU)  
Dr. Lin Sun (Samsung Inc, US)

### bachelor of engineering 2014-2018

Changsha University of Science & Technology

(Affiliation to the Ministry of Transport of China and Hunan Province)

- GPA: 3.22/4.00
- avg score: 82/100
- mentors: Prof. Xiaoqin Sun
- interests: energy conservation, building intelligence and mathematical modeling
- outstanding thesis award(<1%)

## teaching

### teaching assistant

summer 2015, lectures of 90+ students

## skills

### programming languages

python • c++ • c • java • matlab

### general languages

chinese & english • ielts 6.5/9.0

### frameworks

pytorch(mainly used) • tensorflow

### web/mobile

java android • SSH framework • SQL

### coursework

Object-Oriented Technology&Method

Software Theory & Engineering

Computer Vision

Digital Stage-performance

Statistics Pattern Recognition

Network Security Technology

Matrix Analysis

Probability & Statistics B

Linear Algebra

Algorithm

Automatic Control Theory & System

Building Equipment Automation

Principles of Microcomputer

## research experience

### 2019 | research | self-supervised video representation

- investigated self-supervised video representation with contrastive loss and multi-task transfer.

### 2019 | research | small object detection

- investigated high-performance model with image pyramid for small object det.

### 2019 | competition | iccv workshop challenge-visdrone2019

- investigated one-stage detector for drone images, achieved 2nd place.

### 2018-19 | research | action recognition with long-range attention

- proposed bootstrapping based framework for action recognition.

### 2018 | research | image enhancement, snow removing

- investigated cycle-GAN for image enhancement to turn snowy-weather-image into clear-image and recognize that.

### 2018 | research&bachelor thesis | fault detection system

- developed multi-PCA fault detection algorithm for detecting and diagnosing faults of building equipment, such as central air conditioner.

## papers / posters / talks

### published/accepted

- Ziming Liu. 2019. Action Recognition with Bootstrapping based Long-range Temporal Context Attention. **the 27th ACM International Conference on Multimedia (MM '19)**
- co-author, VisDrone-DET2019: The Vision Meets Drone Object Detection in Image Challenge Results, **ICCV2019 workshop paper**
- co-author, VisDrone-VID2019: The Vision Meets Drone Object Detection in Image Challenge Results, **ICCV2019 workshop paper**

### pre-print papers

- Liu Z, Gao G, Sun L. IPG-Net: Image Pyramid Guidance Network for Object Detection[J]. arXiv preprint arXiv:1912.00632, 2019.
- Ziming Liu, Jinyang Li, Guangyu Gao, Alex Kai Qin, Action Recognition: You Only Look Once, DOI: 10.13140/RG.2.2.23477.83688, 2019.
- Ziming, and Xiaobo Liu. "Multi-PCA based Fault Detection Model Combined with Prior knowledge of HVAC." arXiv preprint arXiv:1911.13263

### talks

- 2019, Session 2A: Knowledge Processing & Action Analysis, ACM MM2019
- 2019, Action Recognition, UPM&BIT academic exchange

### posters

- 2019, Nice France, ACM MM2019 poster session

### website publication

- "Review of the video based action recognition research", CCF-Computer Vision News Letter No. 6/Total No. 22, 2019

## awards

university scholarship every year

3rd Prize, CUMCM(mathematics competition)

2017

2nd prize, Research project funded by my university

2017

Honorable Mention, MCM/ICM(mathematics competition)

2018

Outstanding undergraduate thesis (<1%)

2018

2nd place, Honorable Mention, ICCV workshop challenge

2019

winner team, international summer school on innovation

2019