Ziming Liu

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education

master of software engineering
2018.09-2020.06
Beijing Institute of Technology
(Affiliation to the Ministry of industry & infomation 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 ✇
- 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
english & chinese
CET6 550(700) • IELTS 6.5(9.0)
frameworks
pytorch(mainly used) • tensorflow
experienced algorithms
video understanding related
object detection related
GAN related
image enhancement related
graph convolution network related
PCA related
attention related
web/mobile
java android • SSH framework • SQL

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