

WENHAO WU

HomePage: <https://whwu95.github.io>, **E-mail:** wuwenhao17@mails.ucas.edu.cn

Address: 1068 Xueyuan Avenue, Shenzhen University Town, Shenzhen, P.R.China

EDUCATION

University of Chinese Academy of Sciences, China

September 2017 - June 2020

M.Eng. in Pattern Recognition and Intelligent System.

GPA: 3.70/4.0

Training Unit: **Multimedia Lab, Shenzhen Institutes of Advanced Technology, CAS.**

Advisor: **Prof. Shifeng Chen** and **Prof. Yu Qiao**.

Central South University, China

September 2013 - June 2017

B.Eng. in Automation.

Overall GPA: 87.31/100

Recommended to Chinese Academy of Sciences

RESEARCH INTERESTS

Computer Vision: Action Recognition, Video Understanding.

RESEARCH EXPERIENCE

SenseTime Research

January 2020 - March 2020

BigVideo Team, Mentor: Kai Chen

Research Intern

- Develop a codebase for action recognition, in which we implement most SOTA action recognition algorithms and align their performances with results reported in the paper on video datasets.

Baidu Research

September 2018 - January 2020

Institute of Deep Learning (IDL), Mentors: Xiao Tan, Dongliang He

Research Intern

- Propose an effective model on untrimmed video recognition task, which is based on a video frame sampling technique by multi-agent reinforcement learning. (**Oral Presentation in ICCV'2019**)
- Research on Dynamic Inference for Video Recognition. (Accepted in CVPRW'2020)
- As the great contributor to participate in the CVPR20 NTIRE Perceptual Extreme Super-Resolution Challenge. We won 1st in SSIM, 2nd in PSNR, and 11th in LPIPS.

iQIYI

June 2018 - September 2018

Video Analysis Group, Mentor: Yang Yang

Research Intern

- Research on 3D Convolutional Neural Network for Video Classification.
- To address the problem of I/O bottleneck when large scale video data is stored as encoded image format, we develop a fast data loading method for decoding video on the fly in a data processing pipeline.

Samsung Research China

March 2018 - June 2018

Machine Learning Lab, Mentor: Zhenbo Luo

Research Intern

- Considering the cases when provided with limited computing resources, we integrate long-term and long-term temporal information base on 2D CNN on a large scale activity recognition dataset.
- As the major contributor to participate in the CVPR'18 ActivityNet Kinetics-600 challenge (Rank 8) and proposed a multi-stream network based on 2D CNN for video classification.

Shenzhen Institutes of Advanced Technology, CAS

September 2016 - June 2020

Multimedia Lab, Advisor: Prof. Shifeng Chen and Prof. Yu Qiao

Visiting Student & MSC Student

- As the major contributor to design face recognition algorithm on NVIDIA Jetson TX2, and won the prize of China Hi-Tech Fair 2018 Top 10 Popular Products and was interviewed by CCTV.

- Participate in the National Natural Science Foundation Project of China (U1713203), Key-Area Research and Development Program of Guangdong Province (2019B010155003), and Shenzhen Science and Technology Innovation Commission Project (KQJSCX20180330170238897).

PUBLICATIONS

1. Jin Ye, Junjun He, **Wenhao Wu**, Xiaojiang Peng, and Yu Qiao. Attention-Driven Dynamic Graph Convolutional Network for Multi-Label Image Recognition, In *European Conference on Computer Vision (ECCV)*, 2020 (Review in progress)
2. Jie Wu, Wei Zhang, Guanbin Li, Xiao Tan, **Wenhao Wu**, Yingying Li, Shilei Wen, Errui Ding and Liang Lin. Weakly-Supervised Spatio-Temporal Anomaly Detection in Surveillance Video, In *European Conference on Computer Vision (ECCV)*, 2020 (Review in progress)
3. **Wenhao Wu**, Dongliang He, Xiao Tan, Shifeng Chen, Yi Yang and Shilei Wen. **Dynamic Inference: A New Approach Toward Efficient Video Action Recognition**, In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2020
4. **Wenhao Wu**, Dongliang He, Xiao Tan, Shifeng Chen and Shilei Wen. **Multi-Agent Reinforcement Learning Based Frame Sampling for Effective Untrimmed Video Recognition**, In *International Conference on Computer Vision (ICCV)*, 2019 (**Oral Presentation.**)
5. **Wenhao Wu**, Wenbo Chen, Zhenbo Luo. Samsung & SIAT Submission to ActivityNet Challenge 2018, **ActivityNet Large Scale Activity Recognition Challenge**, In *International Conference on Computer Vision and Pattern Recognition (CVPR) Workshop*, 2018

CONTESTS

- The NTIRE Perceptual Extreme Super-Resolution Challenge on CVPR'20: Won 1st in SSIM, 2nd in PSNR, and 11th in LPIPS. 2020
- "Tianchi" ECG artificial intelligence competition. Rank 8 (2353 in total). 2019
- The ActivityNet Challenge 2018 on CVPR'18: Trimmed Action Recognition (Kinetics). Rank 8. 2018
- The 1st Prize of America Mathematical Contest In Modeling (**MCM**) 2016
- The 1st Prize in National Undergraduate Mechanical Innovation Design Competition 2016
- The 2nd Prize in China Freescale Cup Intelligent Car Competition (South China Region) 2015
- The 2nd Prize in Undergraduate Smart Car Racing Competition of Hunan Province 2015
- The 3rd Prize in Contemporary Undergraduate Mathematical Contest in Modeling 2015

SELECTED HONORS AND AWARDS

- Best Intern Honor in Baidu (only 2 recipient in the Department) 2019
- Scholarship for Academic Excellence of Shenzhen Institutes of Advanced Technology 2018
- Excellent Undergraduate Student of Central South University (Top 10%) 2017
- Outstanding Student of Central South University 2016
- National Endeavor Scholarship (Top 5%) 2016
- Excellent National College Students Innovation and Entrepreneurship Project 2016
- Excellent Student Cadre of Central South University 2015
- Excellent League Member of Central South University 2015
- Scholarship for Academic Excellence of Central South University 2014,2015,2016

CODE SKILLS

Python, Linux, Matlab, C/C++ and deep learning frameworks such as PyTorch, TensorFlow, Caffe.