Qitao Zhao

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Education

Shandong University 2019.9 — 2023.6 (expected)

Bachelor in Communication Engineering

Overall GPA: 94.44/100 Major GPA: 95.95/100 Rank: 2/21 in Chongxin College

Relevant Courses: Machine Learning, Pattern Recognition and Deep Learning (95); Information Theory, Coding and Security (95); Deep Learning Experiments (97); Digital Signal Processing (97); Digital Image Processing (100); Probability and Statistics (100);

Note: Members from Chongxin College are Top 5% engineering students selected across Shandong University in the first year. I was picked mainly because of my outstanding academic performance. (I ranked 1/140 in my original department)

Research Interests

- Computer Vision
  - Cross-view gait recognition
  - Vision Transformer
  - 3D vision
- Interpretability of deep learning
- Information theory in deep learning

Project Experiences

Cross-view Gait Recognition **2021.9 — Present**

Research Intern Advisor: Prof. Xianye Ben *DPAI Lab, Shandong University*

- Introduction to domian: Read 20+ top-tier conference papers of recent years as introduction.
- Reproduction of SOTAs: Implement the-state-of-the-art models (*e.g.* GeitSet, GLN, GaitPart) on multi-GPUs.
- Novel model design: Long-range temporal motion relation modeling using Vision Transformer with strong inductive bias.
- Experiment validation: Conduct experiments to verify and refine the idea.

Course Project: Self-driving Assistance System with Car-detection **2021.9 — 2021.12**

- Implement YOLOv4 powered by HUAWEI Ascend AI processor (on Atlas 200 Developer Toolkit).
- Use FPGA to share 5G-network with Atlas 200 DK.
- Design container for hardware with 3D-printing.
- Design web page using *Streamlit* to visualize detection results and system information plus weather condition and road map.
- Source code for the project has been released on *GitHub*.

Course Project of DL Experiments: Real-time Style Transfer **2021.12**

- Read conference papers of Style Transfer.
- Implement the model based on *Zhang et al*. "Multi-style Generative Network for Real-time Transfer" in ECCV 2018 workshop.
- Inference on RTX 2080ti and transfer resulting images using *Socket*.
- Web page design using HTML and VUE.

Online Course Learning: Stanford CS231n-2021 **2021.7 — 2021.8**

- Learn Deep Learning basics via videos and assignments.
- Read classic Deep Learning papers, *e.g.* LeNet-5, ResNet, GAN, Transformer.
- My solution to CS231n-2021 assignments has been released on *GitHub*.

Summer Course Learning: Digital Image Processing **2021.7**

Instructor: Prof. Xiaolin Wu

- Learn Digital Image Processing basics.
- Course Project: Demosaic using Linear Regression with Python.
- Get a full mark for impressive project achievement and presentation.

Selected Awards

National Scholarship Award top 0.2% students national-wide by Ministry of Education of P.R. China, 2020

First-class Scholarship Award students of excellent academic performence (top 5% in Shandong University)

Skills

- Tools and Languages
  - Python, C, Git, LaTeX, MarkDown, Microcontroller Unit
- Deep Learning Research
  - Pytorch, MATLAB, matplotlib, OpenCV, Numpy, Streamlit