

Shen Zhuoran

cmsflash99@gmail.com | +852 6563 6140, +86 139 9988 0290 | cmsflash.github.io | github.com/cmsflash

Education

The University of Hong Kong, Hong Kong Sep. 2015 - Present
Bachelor of Engineering in Computer Science; CGPA: 3.97/4.30; standing: 1/111; major CGPA: 4.13/4.30.

University of California, Davis, CA, United States Sep. 2017 - Dec. 2017
Bachelor's Reciprocity Student in Computer Science; GPA: 4.00/4.00.

Work Experience

SenseTime, Hong Kong Jun. 2017 - Present
Research Intern, Intelligent Perception and Services Team, Smart City Group

- Developed a research project template that facilitated a team of ~40 to transition from Caffe to PyTorch.
- Conducted academic research projects partially listed in *Selected Research Experience*.

Selected Research Experience

Factorized Speech Transformer, Research Experience in Industry Jan. 2019 - Present
Supervised by Dr. Yi Shuai, Vice Director of Research, SenseTime

In collaboration with Speech Group, Machine Intelligence Laboratory, Cambridge University

- Designing a novel speech recognizer with factorized attention and the Transformer.

Factorized Visual Transformer, Research Experience in Industry Jan. 2019 - Present
Supervised by Dr. Yi Shuai, Vice Director of Research, SenseTime

- Designing a novel backbone architecture for computer vision with factorized attention.

Factorized Attention, Research Experience in Industry Sep. 2018 - Nov. 2018
Supervised by Dr. Yi Shuai, Vice Director of Research, SenseTime

- Proposed *factorized attention*, which reduced the memory and computational complexities of self-attention from quadratic to linear and is applicable to computer vision, NLP, and speech analysis.
- Achieved new states-of-the-art on object detection (43.1 over 41.8 in AP on MS-COCO 2017) and stereo depth estimation (0.477 over 1.09 in EPE on Scene Flow) and significant improvement on instance segmentation (37.9 over 36.6 in AP on MS-COCO 2017).

Project on Stereo Depth Estimation, Research Experience in Industry May 2018 - Aug. 2018
Supervised by Dr. Yi Shuai, Vice Director of Research, SenseTime

- Achieved 2x reduction in error rate (EPE) over the previous state-of-the-art on the Scene Flow dataset.

Projects

BeautyNet, Personal Project May 2018 - Present

- Developed a PyTorch project template. Applied deduplication, modularization, and a consistent code style to improve maintainability, testability, and analyzability.
- Became the 2nd most popular PyTorch template on GitHub, got 180+ stars, and trended for 3 days.

Awards

- **First Runner-up**, ACM-HK Programming Contest 2017
- **Second Runner-up**, ACM-ICPC Hong Kong PolyU International Invitational 2017
- **Dean's Honours Lists, 2015-2018**, Faculty of Engineering, The University of Hong Kong
- **Dean's Honor List, Fall Quarter 2017**, College of Letters and Science, University of California, Davis
- **YC Cheng Engineering Scholarship, 2017**, Faculty of Engineering, The University of Hong Kong

Preprint

- **Shen Z.**, Zhang M., Yi S., Yan J., Zhao H. (2018). *Factorized Attention: Self-Attention with Linear Complexities*. In submission to CVPR 2019.

Skills

- **Programming:** Python, C, C++, Java, Shell script, Markdown, LaTeX
- **Technologies:** PyTorch, Caffe, Git, Slurm, Django, Jekyll, Vim, CUDA, NumPy, OpenCV
- **Languages:** Mandarin Chinese (native), English (116 in TOEFL)