GENGWEI ZHANG

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EDUCATION

Sun Yat-Sen University *Sept. 2015 - Present*
Senior Undergraduate Overall GPA: 3.9/4.0
School of Data and Computer Science Major GPA: 4.0/4.0

ACADEMIC EXPERIENCE

Human Parsing April 2018 - Present
Advisor: Dr. Zhuo Su *Research Assistant*

- *Aiming at designing a concise model to reduce the size of traditional human parsing algorithm with the improvement of the performance.*
- Proposed an efficient network architecture with attention guidance for human parsing, which reach the state-of-the-art performance with only 60% parameters of the previous one.
- proposed an light-weighted architecture which has only about 20% parameters of traditional architecture with only 2% decrease of performance.
- Re-implemented Deeplab-v3+ and Pspnet networks with PyTorch for comparison experiments.
- Published a multi-person human parsing dataset.

Multi-Person Pose Estimation Nov. 2017 - Present
Advisor: Dr. Zhuo Su *Research Assistant*

- *Aiming at handling complex scenario in multi-person images.*
- Carried out experiments to excavate the connection and difference between single and multi-person pose estimation.
- Analyzed MS-COCO dataset and tried different data augmentation strategy, which finally increase more than 10% average AP.
- Fully re-implemented state-of-the-art algorithm CPN with PyTorch and make it public, which gained more than 120 stars on GitHub. (https://github.com/GengDavid/pytorch-cpn)
- Transferred detection algorithm FPN to human pose estimation task using TensorFlow.
- Participated in challenges associated with pose estimation (FashionAI and AI challenger etc.).

Visual Tracking Summer 2017
Advisor: Dr. Zhuo Su *Research Assitant*

- Work review and presentation in group seminar.

PUBLICATIONS

Xianghui Luo, **Gengwei Zhang**, Jiaming Guo, Zhuo Su, Xiangjian He, Chengying Gao. "Multi-scale meets Spatial Awareness: An Efficient Attention Guidance Network for Human Parsing." CVPR'2019 (Under Review)

Xianghui Luo, Zhuo Su, Jiaming Guo, **Gengwei Zhang**, Xiangjian He. "Trusted Guidance Pyramid Network for Human Parsing." In 2018 ACM Multimedia Conference on Multimedia Conference (ACM Multimedia) (pp. 654-662). ACM. (**Poster**)

Jiaming Guo, Zhuo Su, Xianghui Luo, **Gengwei Zhang**, Xiwen Liang "Conditional Feature Coupling Network for Multi-Persons Clothing Parsing." Pacific Rim Conference on Multimedia (PCM), 2018, September (pp. 189-200). Springer, Cham. (**Oral**)

WORK EXPERIENCE

Tencent Inc. Summer 2018
Supervisor: Zuck Chen *Research and Development Intern*

· Integrated Super resolution algorithm into a mobile video app for sake of saving traffic.
· Selected and implemented algorithms with TensorFlow Lite, TensorFlow Mobile, and accelerated with mobile GPU using Qualcomm SNPE on mobile devices.

LEADERSHIP AND OTHER EXPERIENCE

FashionAI Global Challenge
Team Leader *March - May, 2018*

· Lead a team of 3 people to compete in two challenges.
· Selected and optimized Hourglass and CPN algorithm with PyTorch.
· Used model fusion and test set augmentation strategy to get better performance.
· Key Points Detection of Apparel Challenge, final rank(2^{nd} round): 53/2322

AI-Fundation

· Implemented traditional machine learning algorithms from scratch with python and c++.
· Link: `https://github.com/GengDavid/AI-Fundation`

Awards

· Honorable Mentions in 2017 COMAP's Mathematical Contest in Modeling.
· 1^{st} class scholarship in Sun Yat-sen University (rank 10/465)
· First Prize in 2017 Sun Yat-sen University software innovation competition.

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, MATLAB, Cython, Java, HTML/CSS/Javascript
Deep learning Platforms	PyTorch, Tensorflow, Caffe/Caffe2
Os	Windows, Linux (Ubuntu, CentOS, Kali), MacOS
Sofware	LaTeX, Wordpress, Photoshop, After Effects, Premiere