

GENGWEI ZHANG

School of Data and Computer Science, Sun Yat-Sen University
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EDUCATION

Sun Yat-Sen University

Senior Undergraduate

School of Data and Computer Science

Sept. 2015 - Present

Overall GPA: 3.9/4.0

Major GPA: 4.0/4.0

ACADEMIC EXPERIENCE

Human Parsing

Advisor: Dr. Zhuo Su

March 2018 - Present

Research Assistant

- *Aiming at improving the performance of human parsing algorithm with an efficient model*
- Proposed an efficient network architecture with attention guidance for human parsing, which outperformed the state-of-the-art model with only 60% parameters of it.
- Designed an light-weighted version with only about 20% parameters of the full model, which only had 1% decrease of performance.
- Published a multi-person human parsing dataset.

Multi-Person Pose Estimation

Advisor: Dr. Zhuo Su

Oct. 2017 - March 2018

Research Assistant

- *Aiming at implementing multi-person pose estimation algorithms.*
- Fully implemented state-of-the-art algorithm CPN with PyTorch and made it public, which gained more than 200 stars on GitHub. (<https://github.com/GengDavid/pytorch-cpn>)
- Analyzed MS-COCO dataset and tried different data augmentation strategies.
- Transferred detection algorithm FPN to human pose estimation task using TensorFlow.

Visual Tracking

Advisor: Dr. Zhuo Su

Summer 2017

Research Assistant

- 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)

Zhuo Su, Jiaming Guo, **Gengwei Zhang**, Xianghui Luo, Ruomei Wang, Fan Zhou. "A Conditional Progressive Network for Clothing Parsing." IET Image Processing, 2018. (**Accepted**)

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.

Supervisor: Zuck Chen

Summer 2018

Research and Development Intern

- *Aiming at integrating Super resolution algorithm into an existing mobile video app for sake of saving traffic.*
- Selected and implemented algorithms with TensorFlow and deployed on Android devices.
- Accelerated the running time by 5 times and saved about 75% Internet Traffic for image loading.

LEADERSHIP AND OTHER EXPERIENCE

FashionAI Global Challenge

Team Leader

March - May, 2018

- Led a team of 3 people to compete in two challenges.
- 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(2nd round): 53/2322

Kaggle Human Protein Atlas Image Classification

Team Member

Dec. 2018

- Used re-sampling strategy to solve the problem of unbalanced data
- Utilized cross validation for ensemble.
- Silver medal, final rank: 88/2172

AI-Foundation

- Implemented traditional machine learning algorithms from scratch with python and c++.
- Link: <https://github.com/GengDavid/AI-Foundation>

Awards

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

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

Software

L^AT_EX, Wordpress, Photoshop, After Effects, Premiere