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Ligeng Zhu

Education

2015 – now **Simon Fraser University**, *Vancouver*, BC, Canada.
B.Sc in Computing Science, Dual Degree Program exchange. GPA: 3.71/4.0

2013 – now **Zhejiang University**, *Hangzhou*, Zhejiang, China.
B.Eng in Computer Science & Technology. GPA: 3.8/4.0

Publications

In submission **Sparsely Connected Convolutional Networks**.
Ligeng Zhu, Ruizhi Deng and Ping Tan
(Hope to appear in CVPR 2018)
Sparsely connection neural networks that

January 2018 **Colorize Color Images**.
Ligeng Zhu and Brian Funt
To appear in 30th Human Vision and Electronic Imaging Conference (HVEIC 2018).
A technique to improve color quality by colorizing it.

October 2016 **Attribute Recognition from Adaptive Parts**.
Luwei Yang, Ligeng Zhu, Yichen Wei, Shuang Liang and Ping Tan
In 27th British Machine Vision Conference (BMVC 2016)
An end-to-end deep learning approach to optimize parts detection for attribute recognition.

Experience

May 2017 – **Research Assistant**, *CVL Lab*, Simon Fraser University, Advisor: Prof.Brian Funt.
Research in deep learning and color vision
- One publication on conference HVEI 2018
- Contribution to Gehler's Dataset

May 2017 – Sept 2017 **Deep Learning Engineer**, *Deep Perception Group*, TuSimple, Mentor: Dr.Panqu Wang.
Summer internship
- Designed an algorithm that generates the road area from lidar cloud point. (Copyright)
- Designed vehicle back light understanding system. (Copyright)
- Improved scene parsing

TuSimple Inc. is an unicorn startup aiming to achieve the first commercially viable autonomous truck driving platform with L4 (SAE) levels of safety.

Sept 2015– May 2017 **Research Assistant**, *GruVi Lab*, Simon Fraser University, Advisor: Prof.Ping Tan.
Research in computer vision and 3d reconstruction
- One publication on conference BMVC 2016
- Contribution to garment dataset

Sept 2014 – May 2015 **Research Assistant**, *CAD & CG Lab*, Zhejiang University.
Worked in computer graphics
- Implementated a image depth-detect algorithm
- Participated a material simulation system.

Talks and Teaching

Oct 2017 **Deep Learning for Computer Visioners**, Simon Fraser University, Slides.
Invited lectures for undergraduate course Computer Vision CMPT 412.

May 2017 **Neural Style Transformations**, TuSimple, Slides.
Regular Group tech share during internship.

Jan 2017 **Deep Learning Live for Beginners**, Zhejiang University, Slides.
A general introduction for beginners who have background of programing and math basics but never touched deep learning before.

Honors and Awards

2017 **Open Source Scholarship**, Simon Fraser University.
To reward students who made a major contribution in a open source projects.

2017 **Academic Scholarship**, Issued by Simon Fraser University.
Offered to students who show good academic behaviors.

2015 **ACM-ICPC Contest**, Issued by Zhejiang University.
Second prize

2015 **The Mathematical Contest In Modeling**, Issued by Zhejiang University.
First prize, ranking 3/143

2015 **The Mathematical Contest In Modeling**, COMAP.
Honorable Mention

Language Proficiency

Chinese Native

English Fluent, IELTS 7.0/9.0, GRE V: 154/170, Q: 170/170, W: 3.5/6

Japanese Understand, JTEST N2

Projects

2017 **MXBox:a toolbox for mxnet framework**, *GitHub*.
- Define preprocess as transformation flow.
- Efficient and flexible DataLoader.
- Rich state-of-the-art models and their pretrained weights.

2016 **Colorize gray-scale image using deep neural networks**, *Released model*.
- Implemented the state of the art model, and accelerated training time from 3 weeks to 3 days.
- Introduced a simple feed-forward network for colorization task, which needs much less training time while keeping competitive results to the state-of-the-art model.

2016 **Fast Artistic Stylization for Videos**, Online Demo.
Proposed an stable (no flash between frames) and fast (30x faster than Ruder's method) artistic style transfer approach for videos.

2016 **Play with Multimedia**.
- Implemented RAW-to-JPEG converter with standard JPEG 2000.
- Implemented a simple video-gif converter based on GIF89 standardization.
- Built a image retrieval system with Deep Neural Networks which reaches mAP 0.62 on Caltech 256 dataset.

2015 **An Efficient Ray-tracing Render Engine**.
- Most of modern render engine features - shadow, reflection, refraction, diffuse, super-sampling.
- Support reading from 3d texture file (SMF / OBJ).
- Used octree to avoid unnecessary intersection check, and openmp for parallel acceleration.