Jianhong Pan

RA in Computer Vision – Shenzhen – People's Republic of China

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EDUCATION

Shenzhen University **Shenzhen**
B.Eng. in Software Engineering *Sep. 2015–Jun. 2019*
Advisors: Prof. Xuan Yang

MANUSCRIPTS IN PREPARATION

[1] **J. Pan**, T. Huang, X. Yang, "RIAP: A method for Effective Receptive Field Rectification."
[2] **J. Pan**, X. Yang, "SepNet: Accelerating CNN by Reducing the Memory-Access Cost."

TECHNICAL STRENGTHS

Programming Language	C/C++, Java, Python
Programming Framework	PyTorch, Tensorflow, MNN, Keras, Caffe
Hardware Deployment	x86, ARM
Github	https://github.com/PoonKinWang

RESEARCH INTERESTS

Object Detection, Semantic Segmentation, Super Resolution, Tree-based Model

WORK EXPERIENCE

National High Performance Computing Center **Shenzhen**
Research Assistant *Jun. 2018–Present*

- Advised by Prof. Xuan Yang, I mastered how to apply super resolution to biomedical image.
- Engaged in some research projects about biomedical image segmentation for glomerulus, where the ground truth are weak-label.

RESEARCH EXPERIENCE

Effective Receptive Field

- This research explored why same-padding causes information decay and the effective receptive field does not present uniformed distribution, and attempt to fix it.
- Proposed a method to re-transmit the information via augmenting path(RIAP). Experiments on image classification demonstrate it can increases network accuracy. This work was submitted to ECCV 2020.

Efficient CNNs

- This research explored the potential of efficient CNN structures for image classification.
- Proposed the Separable Network (SepNet), which utilized the complementary characteristics of depthwise separable convolution and spacewise separable convolution to minimize the Memory-Access Cost.
- Experimental results show that it is state-of-the-art in the speed-accuracy tradeoff. This work was submitted to ECCV 2020.

3D Depthwise Convolution

- Optimized the depthwise convolution for 3D image using PyTorch, which significantly improved inference speed (the original algorithm uses group convolution to process 3D image).
- This work is adopted by my colleague to our research about traffic flow prediction.

HONORS

Huaqiang Scholarship: scholarship *Nov. 2015*

ASC Student Supercomputer Challenge 2018: second prize *Mar. 2018*

Star of Innovation and Entrepreneurship: scholarship *Jun. 2018*

Talks

Invited talk: Yinchuan Second People's Hospital *Aug. 2019*

TEACHING EXPERIENCE

Introduction to Computer Science: TA *Fall. 2016*

C Program Design: TA *Fall. 2016*

C++ Program Design: TA *Spring. 2017*

Data Structure: TA *Fall. 2017*

Algorithm Design and Analysis: TA *Fall. 2018*