Yihui He

CONTACT INFORMATION

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Pittsburgh, PA 15213

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RESEARCH INTERESTS

CNN Acceleration and Compression [2, 1, 4], Reinforcement Learning [1], Super Resolution [5], Detection [2], Depth [7], Structure from Motion, Panorama, Security Game [3], HTTP [6]

EDUCATION

Carnegie Mellon University 2018 - 2019

Master, Computer Vision

University of California, Santa Babara Spring 2016

Exchange student, Computer Science

Xi'an Jiaotong University 2014 - 2018

Bachelor, Computer Science

PUBLICATIONS

[1] **Yihui He**, Ji Lin, Zhijian Liu, Hanrui Wang, Li-Jia Li, and Song Han. "AMC: AutoML for Model Compression and Acceleration on Mobile Devices". In: *European Conference on Computer Vision (**ECCV**)*. Sept. 2018. cited by **5**, [arXiv].

[2] **Yihui He**, Xiangyu Zhang, and Jian Sun. "Channel Pruning for Accelerating Very Deep Neural Networks". In: *The IEEE International Conference on Computer Vision (**ICCV**)*. Oct. 2017, pp. 1389–1397. cited by **60**, [PDF] [arXiv] [Code].

[3] Xiaobo Ma*, **Yihui He***, Xiapu Luo, Jianfeng Li, Mengchen Zhao, Bo An, and Xiaohong Guan. "Vehicle Traffic Driven Camera Placement for Better Metropolis Security Surveillance". In: *IEEE Intelligent Systems (**IS**)*. 2018. *Equal contribution, [PDF] [arXiv].

UNDER REVIEW

[4] **Yihui He**, Xiangyu Zhang, and Jian Sun. "Pruning Very Deep Neural Network Channels for Efficient Inference". In: *IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)* (2017). **Major Revision**.

[5] Yudong Liang, Ze Yang, Kai Zhang, **Yihui He**, Jinjun Wang, and Nanning Zheng. "Single Image Super-resolution via a Lightweight Residual Convolutional Neural Network". In: *IEEE Transactions on Multimedia (**TMM**)* (2017). cited by **6**, [arXiv].

[6] Hongwei Zhao, Xiaobo Ma, Shuai Li, Xiaopu Luo, Mawei Shi, and **Yihui He**. "Boosting the performance of dynamic adaptive streaming over http in bandwidth-fluctuation networks: A pid-based approach". In: *IEEE International Conference on Multimedia and Expo (**ICME**)* (2018).

PROJECT REPORT

[7] **Yihui He**. *Estimated Depth Map Helps Image Classification*. May 2016. [arXiv] [Code].

SERVICE

Reviewer for IEEE Transactions on Image Processing (**TIP**, AE: Prof. Jie Liang).

RESEARCH EXPERIENCE

MIT Oct, 2017 - Dec, 2017

Research Assistant with Prof. Song Han

- Automated CNN compression [1]. Successfully compressed NASNet, MobileNet.

Johns Hopkins University Aug, 2017 - Nov, 2017

Research Assistant with Prof. Alan Yuille

- Visual concepts for fewshot detection. Detectors emerged from visual concepts.

Megvii Inc. (Face++) Dec, 2016 - Aug, 2017

Research Intern with Dr. Xiangyu Zhang and Dr. Jian Sun

- Pruning CNN channels [2]. VGG-16 5× with negligible accuracy loss.
- Head boxes aided pedestrian detection. Distinguish overlapped pedestrians by detecting heads.
- Object detection with confidence scores on each edge of bounding box.

Xi'an Jiaotong University

Undergrad Researcher in Computer Vision and AI Lab

- Super resolution [5], supervised by Jinjun Wang.

Undergrad Researcher in Intelligent Network and Network Security Lab

- Traffic driven camera placement [3], supervised by Xiaopu Luo.
- PID-based streaming over http [6].

Baidu Big Data Lab Joint Cultivation student

- Data mining on large scale location data.

Industry Experience

Deepglint Inc. June 2016 - Aug 2016

Engineering Intern

- Gastrointestinal stromal tumor Image Segmentation.

Honors and Awards

Baidu Big Data and AI scholarship	2018
Siyuan scholarship, Xi'an Jiaotong University	2016-2017
Outstanding student, Xi'an Jiaotong University	2016
RoboCup Junior Soccer Challenge, 1st place	2014
RoboCup Junior Soccer Challenge, 3rd place	2012