

Yihui He

CONTACT INFORMATION

Computer Science
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RESEARCH INTERESTS

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

EDUCATION

University of California, Santa Barbara, CA Spring 2016
Exchange student, Computer Science, GPA 4.0/4.0
Xi'an Jiaotong University, Xi'an, China 2014 - 2018
Bachelor, Computer Science, GPA 81.4/100 (1st/2nd/3rd year rank: 22%/4%/37%)

PUBLICATIONS

[1] **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 **11**, [CVF open access] [arXiv] [Code].

UNDER REVIEW

- [2] **Yihui He** and Song Han. "ADC: Automated Deep Compression and Acceleration with Reinforcement Learning". In: *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* (2018). [private link].
- [3] **Yihui He***, Xiaobo Ma*, 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)* (2016). **Major Revision**, *Equal contribution, [arXiv].
- [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**, [private link].
- [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 **1**, [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). [private link].

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 - Present
Research Assistant with Prof. Song Han

- Automated CNN compression [2]. 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++) <i>Research Intern with Dr. Xiangyu Zhang and Dr. Jian Sun</i> <ul style="list-style-type: none"> • Pruning CNN channels [1]. VGG-16 $5\times$ 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. 	Dec, 2016 - Aug, 2017
	Xi'an Jiaotong University <i>Undergrad Researcher in Computer Vision and AI Lab</i> <ul style="list-style-type: none"> • Super resolution [5], supervised by Jinjun Wang. <i>Undergrad Researcher in Intelligent Network and Network Security Lab</i> <ul style="list-style-type: none"> • Traffic driven camera placement [3], supervised by Xiaopu Luo. • PID-based streaming over http [6]. <i>Baidu Big Data Lab Joint Cultivation student</i> <ul style="list-style-type: none"> • Data mining on large scale location data. 	
INDUSTRY EXPERIENCE	Deepglint Inc. <i>Engineering Intern</i> <ul style="list-style-type: none"> • Gastrointestinal stromal tumor Image Segmentation. 	June 2016 - Aug 2016
HONORS AND AWARDS	RoboCup Junior Soccer Challenge, 3rd place RoboCup Junior Soccer Challenge, 1st place Outstanding student, Xi'an Jiaotong University Siyuan scholarship, Xi'an Jiaotong University	2012 2014 2016 2016-2017
PROJECTS	Deep Learning GPU (CUDA) and C Multi-view Geometry NLP	pruning , U-Net , Depth , GAN , ResNet (515 stars on Github) depthwise-conv , c compiler (44 stars on Github) panorama , SfM , notes (71 stars on Github) NER , RNN , notes (36 stars on Github)
EXTRACURRICULAR	Writer in Zhihu with 3k followers Go Amateur 2 dan	