

Haotong Qin

State Key Laboratory of Software Development Environment
School of Computer Science and Engineering
Beihang University, China



qinhaotong@buaa.edu.cn
<https://htqin.github.io/>
+86 188 1152 6159

EDUCATION

- Ph.D. ShenYuan Honors College, Beihang University. 2019–
B.S. School of Computer Science and Engineering, Beihang University. 2015–19

RESEARCH INTERESTS

Network binarization and quantization Efficient neural architecture design
Hardware implementation of compact network

INTERSHIPS

- 2021– Bytedance Artificial Intelligence Lab (AI Lab) Beijing, China Research Intern
Studying the Binarized Neural Network for Keyword Spotting.
2020 Tencent WeiXin Group (WXG) Shenzhen, China Research Intern
Accelerating the Recommendation System Based on Quantized Neural Network.
2018–19 Microsoft Research Asia (MSRA) Beijing, China Research Intern
Building an Extremely Efficient Deep Learning System for Character Recognition.

PUBLICATIONS

First-authored Papers

- 2021 **Haotong Qin**, Zhongang Cai, Mingyuan Zhang, Yifu Ding, Haiyu Zhao, Shuai Yi, Xianglong Liu, Hao Su. BiPointNet: Binary Neural Network for Point Clouds. *International Conference on Learning Representations (ICLR 2021)*.
- 2021 Xiangguo Zhang*, **Haotong Qin***, Yifu Ding, Ruihao Gong, Qinghua Yan, Renshuai Tao, Yuhang Li, Fengwei Yu, Xianglong Liu (* Equal contribution). Diversifying Sample Generation for Data-Free Quantization. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2021)*. Oral presentation.
- 2021 **Haotong Qin**. Hardware-friendly Deep Learning by Network Quantization and Binarization. *International Joint Conference on Artificial Intelligence Doctoral Consortium (IJCAI 2021 DC)*.
- 2020 **Haotong Qin**, Ruihao Gong, Xianglong Liu, Mingzhu Shen, Ziran Wei, Fengwei Yu, Jingkuan Song. Forward and Backward Information Retention for Accurate Binary Neural Networks. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2020)*.
- 2020 **Haotong Qin**, Ruihao Gong, Xianglong Liu, Xiao Bai, Jingkuan Song, Nicu Sebe. Binary neural networks: A survey. *Pattern Recognition*.

Other Papers

- 2021 Renshuai Tao, Yanlu Wei, Xiangjian Jiang, Hainan Li, **Haotong Qin**, Jiakai Wang, Yuqing Ma, Libo Zhang, Xianglong Liu. Towards Real-world X-ray Security Inspection: A High-Quality Benchmark And Lateral Inhibition Module For Prohibited Items Detection. *International Conference on Computer Vision (ICCV 2021)*.
- 2021 Hainan Li, Renshuai Tao, Jun Li, **Haotong Qin**, Yifu Ding, Shuo Wang, Xianglong Liu. Multi-pretext Attention Network for Few-shot Learning with Self-supervision. *IEEE International Conference on Multimedia and Expo (ICME 2021)*.
- 2021 Yan Wu, Jiaxin Fan, Renshuai Tao, Jiakai Wang, **Haotong Qin**, Aishan Liu, Xianglong Liu. Sequential Alignment Attention Model for Scene Text Recognition. *Journal of Visual Communication and Image Representation (JVCI)*.
- 2021 Zixin Yin, Jiakai Wang, Yifu Ding, Yisong Xiao, Jun Guo, Renshuai Tao, **Haotong Qin**. Improving Generalization of Deepfake Detection with Domain Adaptive Batch Normalization. *ACM Multimedia AdvM Workshop (ACM MM 2021 AdvM)*.
- 2020 Yan Wu, Xianglong Liu, **Haotong Qin**, Ke Xia, Sheng Hu, Yuqing Ma, Meng Wang. Boosting Temporal Binary Coding for Large-Scale Video Search. *IEEE Transactions on Multimedia (IEEE T-MM)*.

Patents

- 2021 Xianglong Liu, **Haotong Qin**, Yifu Ding, Zhongang Cai, Mingyuan Zhang. A Point Cloud-oriented Method and Device for Efficient Neural Network Binarization. *Chinese patent CN112183731A*.
- 2020 Xianglong Liu, **Haotong Qin**. A Method and Device for Generating Information Retention Network. *Chinese patent CN111523637A*.
- 2019 Xianglong Liu, Mingzhu Shen, **Haotong Qin**. A Method and System for Balanced Binary Neural Network Quantization. *Chinese patent CN110472725A*.

MAIN AWARDS AND GRANTS

- 2021 China National Scholarship (2nd time)
- 2021 Huawei Scholarship
- 2020 China National Scholarship
- 2020 Tencent Rhino-Bird Elite Training Program
- 2020 Beihang University First Prize Scholarship
- 2019 Beihang University Outstanding Freshman Scholarship
- 2019 *Summa Cum Laude*, Beihang University
- 2019 ICPC China National Invitational Contest Gold Medal
- 2018 ACM-ICPC Chinese Collegiate Programming Contest Gold Medal

SERVICE TO PROFESSION

- 2019– **PC Member/Reviewer.** The Top-tier Conferences and Journals in Deep Learning (*i.e.*, IEEE T-IP, IEEE T-NNLS, IEEE T-MM, Pattern Recognition, ACM MM).
- 2022 **Organizer.** The 1st International Workshop on Practical Deep Learning in the Wild (PracticalDL-22) in the 36th AAAI Conference on Artificial Intelligence (AAAI) 2022.
- 2021 **Organizer.** The Thematic Forum on Hardware-friendly Lightweight Deep Learning in the fourth Chinese Conference on Pattern Recognition and Computer Vision (PRCV) 2021.
- 2020 **Teaching Assistant.** The Machine Learning Course of Beihang University.

Updated November 2021