Hongwei Qin



Education

2012 - 2017 Ph.D., Department of Automation, Tsinghua University, Beijing.

Research topics: computer vision and deep learning.

Thesis: Object Detection by Deep Convolutional Neural Networks

2008 – 2012 **B.Eng.**, Department of Automation, Tsinghua University, Beijing.

Research Experience

2019 - **Director of AI Camera Department**, SenseTime.

- Al Camera, Vision IoT

2017 - **Research Lead**, Sense Time.

- Research: AutoML, ISP, Video Recognition, Detection.

- Products: Al Camera, Vision IoT, Core Algorithms of SmartPhone and SmartCity

2012 – 2017 PhD Student Researcher, Tsinghua University.

- With Prof. Xiu Li

- Focused on computer vision and deep learning. I had been doing research on CNN model compression, face recognition, object detection, image classification, semantic segmentation and 3D reconstruction.

2015 – 2017 Research Intern, SenseTime.

- Delivered face detection solutions for all the face products of SenseTime.

Spring, 2014 **Research Assistant**, Broadband Network and Digital Media Laboratory, Department of Automation, Tsinghua University, Beijing.

- Worked on depth estimation from single still images (2D to 3D). Our algorithm used a very light-weight model while achieved state-of-the-art results. See publications (ACCV2014, T.CSVT2016) for details.

- Worked with Prof. Qionghai Dai (now Fellow of Chinese Academy of Engineering) and Dr. Yangang Wang (now Associate Professor of Southeast University).

Nov. 2013 Visiting Student, Web Science DTC, University of Southampton, UK.

- Investigated Visualizations of Marketing Trends on Online Social Networks

Summer, **Visiting Student**, The Intelligent Modelling and Analysis Research Group, The 2011 University of Nottingham, UK.

- Investigated Energy Decision in Future City

Publications

Rundong Li, Yan Wang, Feng Liang, Hongwei Qin, Junjie Yan, and Rui Fan. Fully quantized network for object detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.

Wei Gao, Yi Wei, Quanquan Li, Hongwei Qin, Wanli Ouyang, and Junjie Yan.

Pruning with hints: an efficient framework for model acceleration. 2018.

Yi Wei, Xinyu Pan, Hongwei Qin, Wanli Ouyang, and Junjie Yan. Quantization mimic: Towards very tiny cnn for object detection. In *European Conference on Computer Vision (ECCV)*, 2018.

Congrui Hetang, Hongwei Qin, Shaohui Liu, and Junjie Yan. Impression network for video object detection. *arXiv preprint arXiv:1712.05896*, 2017.

Zekun Hao, Yu Liu, Hongwei Qin, Junjie Yan, Xiu Li, and Xiaolin Hu. Scale-aware face detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.

Hongwei Qin, Junjie Yan, Xiu Li, and Xiaolin Hu. Joint training of cascaded CNN for face detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016.

Hongwei Qin, Xiu Li, Yangang Wang, Yongbing Zhang, and Qionghai Dai. Dept: Depth estimation by parameter transfer with a lightweight model for single still images. *Circuits and Systems for Video Technology, IEEE Transactions on*, 2016.

Hongwei Qin, Xiu Li, Jian Liang, Yigang Peng, and Changshui Zhang. Deepfish: Accurate underwater live fish recognition with a deep architecture. *Neurocomputing*, 2015.

Xiu Li, Hongwei Qin, Yangang Wang, Yongbing Zhang, and Qionghai Dai. DEPT: Depth estimation by parameter transfer for single still images. In *The 12th Asian Conference on Computer Vision (ACCV)*, 2014.

Hongwei Qin, Yigang Peng, and Xiu Li. Foreground extraction of underwater videos via sparse and low-rank matrix decomposition. In *Computer Vision for Analysis of Underwater Imagery, 2014 ICPR Workshop on.* IEEE, 2014.

Academic Activities

Since 2014 Reviewer: IJCV, ECCV, CVPR, ICCV etc..

2017 President and Founder of Tsinghua-SenseTime Al Club.

Former Interns (Undergraduates list only)

Zekun Hao Undergraduate@Beihang CS, now PhD@Cornell

Ji Lin Undergraduate@Tsinghua EE

Congrui Undergraduate@Beihang CS, now Master@CMU

Hetang

Shaohui Liu Undergraduate@Tsinghua EE

Yi Wei Undergraduate@Tsinghua EE, now PhD@Tsinghua

Mingjie Sun Undergraduate@Tsinghua Yao Class

Zhen Dong Undergraduate@Peking University MicroElectronics, now PhD@Berkeley

Jiayi Weng Undergraduate@Tsinghua CS

Yuheng Zhi Undergraduate@Shanghai Jiaotong University CS

Yi Zhang Undergraduate@Nanjing University InfoManagement, now PhD@CUHK

Recent Awards

2019 SenseTime Dean Innovation Award (for Al Camera)...

2018 SenseTime Outstanding Team for Deep Learning Camera. SenseTime Outstanding Individual..

2015-2017 Many Internship Awards in SenseTime.

Nov. 2014 National PhD Fellowship.

Interests

2012–2013 Mountaineering.

- Served as team member and climbing caption in Tsinghua University Mountaineering Team

- Climbed Touming Mengke Snow Mountain East Peak (5483m) and South Peak (5475m) in Gansu, Xuanwu Peak (5383m) in Sichuan, and Tuanjie Peak(5827m) in Qinghai

2013-present **Cycling**.

- Surrounded Qinghai Lake

- Completed North Guangdong Line

- Surrounded Erhai Lake

- Surrounded Lugu Lake

2015-present Long Distance Hiking.

- Shenzhen 100km Hiking 2015 2016 2017

- North Xinjiang Hiking in 2017 as an after-graduation trip

2010-present **Marathon**.

- Completed several half Marathons in Beijing, Guangzhou, Shenzhen and Shanghai

2012-present **Photography**.

- Photographed for 2012 Tsinghua University Mountaineering Team

2014-present **Blogger**, http://qinhongwei.com.

- Top Single Article Pageviews: 10000+

2017-present **WeChat blog**, *Dr_red_*.

- Top Single Article Pageviews: 10000+