



education

master | control engineering

tsinghua university | 2015-2018

- research: deep learning optimization, human pose estimation, object detection, face detection, face alignment, face recognition.
- advisor: Lei Zhang

bachelor | instrument and measurement science

kunming university of science and technology | 2008-2012

- concentration in control theory

teaching

tsinghua | student instructor

april 2018 - july 2018

Big Data class in Tsinghua University, covering the following topics

- Developed deep learning experiments for the class, including optimization methods, GAN models and object detection algorithms.
- Designed quizzes, exams, and homework for the class.

skills

programming languages

python • c++

machine learning

frameworks

pytorch • tensorflow • scikit-learn
keras • caffe • MXNet • GluonCV

algorithms

Human Pose Estimation
(OpenPose, Mask-RCNN)

Object Detection

(Faster-RCNN, SSD, YOLO)

Face Detection, Alignment and
Recognition

Stochastic Gradient Descent

general

languages

english • chinese

software

L^AT_EX • photoshop

os

linux • mac • windows

experience

aifi inc. | senior research scientist

july 2018 - present

- Developed the AiFi-Pose system based on OpenPose.
- Propose and changed the AiFi-Tracking System from body detection to head detection, improved more than 10% accuracy.

the hong kong polytechnic university, hongkong | research assistant

october 2016 - april 2018

- Developed PID optimizer to accelerate the training of CNNs.
- Developed the Computing-Face system (face detection, alignment, recognition).
- Developed computer vision algorithm in the construction site, published two top journals in the construction field.

taiyuan iron and steel corporation, china | control technician

july 2012 - september 2014

- Focused on tuning the parameters of PID controller in the steel milling machine.
- Concentration on the control system improvement of the steel milling machine at Mitsubishi factory, Hiroshima, Japan.

publications

published/accepted

- Wangpeng An, et al., 2018: "A PID Controller Approach for Stochastic Optimization of Deep Networks" *cvpr spotlight*
- Wangpeng An, et al., 2017: "Exponential Decay Sine Wave Learning Rate for Fast Deep Neural Network Training" *vcip oral*
- Haoqian Wang, Wangpeng An, Lu Fang and Qionghai Dai, 2018: "Magnify-Net for Multi-Person 2D Pose Estimation" *icme oral*
- Jun Xu, Wangpeng An, et al., 2019: "Sparse, collaborative, or nonnegative representation: Which helps pattern classification?" *Pattern Recognition*
- Sun, Lulu, Zhang Y.B., Wangpeng An, et al., 2016: "Fast and Accurate Image Denoising via a Deep Convolutional-Pairs Network" *pcm*
- Qingtao Tang, Li Niu, Y.S Wang, Tao Dai, Wangpeng An, et al., 2017: "Student-t Process Regression with Student-t Likelihood" *ijcai*
- Qi Fang, Heng L., X.C. Luo, Lieyun D., T. M. Rose, Wangpeng An, et al., 2018: "A deep learning-based method for detecting non-certified work on construction sites" *Journal of Advanced Engineering Informatics*
- Qi Fang, Heng Li, X.C. Luo, L.Y. Ding, H.B Luo, Timothy M. Rose and Wangpeng An, 2018: "Detecting non-hardhat-use by a deep learning method from far-field surveillance videos" *Journal of Automation in Construction*

professional services

peer-review articles for

- Pattern Recognition
- IET Image Processing
- IEEE Signal Processing Letters (SPL)
- IEEE Transactions on Image Processing (TIP)
- IEEE Journal of Visual Communication and Image Representation (JVCI)
- 2nd CEFRL workshop at European Conference on Computer Vision (ECCV) 2018