

Miao Sun

CONTACT INFORMATION

JingChi Corp
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RESEARCH INTERESTS

Computer vision with special interests in Object detection, image classification, and activity analysis;
Deep learning with special interests in convolutional network and hierarchical model.

EDUCATION

University of Missouri, Columbia, MO USA

Ph.D. in Electrical and Computer Engineering, Oct. 2016

- Dissertation Topic: "Large Scale Image Classification and Object Detection"
- Advisor: Prof. Tony X. Han

MS in Electrical and Computer Engineering, May. 2014

- Master Topic: "An Image-classification Leveraged Object Detector"
- Advisor: Prof. Tony X. Han

University of Science and Technology of China, Hefei China

Bachelor of Engineering, Dept. of Automation, Jul, 2011

RESEARCH EXPERIENCE

JingChi Corp, Sunnyvale, CA, USA

Research Scientist, Manager: CTO Xu Han

Apr. 2017 - Present

In charge of perception team for autonomous driving. Developing robust and accurate pedestrian and vehicle detection by taking advantage of multiple sensors such as LIDAR, Radar and Camera with both hand-designed features and deep learning based methods.

Baidu USA, Sunnyvale, CA, USA

Senior Software Engineer, Manager: Dr Xu Han

Nov. 2016 - Apr. 2017

Developed extrinsic calibration algorithms for multiple sensors in Autonomus Driving Team. The algorithm can accurately and efficiently calibrated LIDAR-IMU and LIDAR-Camera.

University of Missouri, Columbia, MO, USA

Research Assistant, Advisor: Professor Tony X. Han

Aug. 2011 - Oct. 2016

Worked on image-based object detection and classification with both traditional hand-designed features and deep structure learned features.

NEC Laboratories America, Inc, Cupertino, CA, USA

Engineering Intern, Manager: Dr. Xiaoyu Wang

Aug. 2013 - Nov. 2013

We were runner up winner in the ImageNet Large Scale Object Detection Challenge (ILSVRC 2013) worldwide and ranked first place in United States.

Sony Electronics Inc, San Jose, CA, USA

Engineering Intern, Manager: Dr. Jason Xun Xu

May. 2013 - Aug. 2013

Designed and implemented learning-based encoding parameter estimation algorithm for efficient HEVC encoders.

Sony Electronics Inc, San Jose, CA, USA

Engineering Intern, Manager: Dr. Jason Xun Xu

May. 2012 - Aug. 2012

Implemented and enhanced stacked convolutional independent subspace analysis features for action recognition.

AWARDS

- Runner up Winner in imageNet Large Scale Object Detection Challenge 2013 worldwide (key person)
- Rank 3rd in the detection task (comp3) of PASCAL Object Classes Challenge 2012 worldwide (key person).
- Rank 7th in the detection task (comp3) of PASCAL Object Classes Challenge 2011 worldwide (key person).

PUBLICATIONS

- Will Y. Zou, Xiaoyu Wang, Miao Sun, Yuanqing Lin, “Generic Object Detection with Dense Neural Patterns and Regionlets”, British Machine Vision Conference, 2014
- Miao Sun, Tony X. Han, Ming-Chang Liu, Ahmad Khodayari-Rostamabad, “Multiple Instance Learning Convolutional Neural Networks for Object Recognition”, International Conference on Pattern Recognition, 2016
- Miao Sun, Tony X. Han, Xu Xun, Ming-Chang Liu, Ahmad Khodayari-Rostamabad, “Latent Model Ensemble with Auto-localization”, International Conference on Pattern Recognition, 2016
- Ke Zhang, Miao Sun, Xu Han, Xingfang Yuan, Liru Guo, Tao Liu, “Residual Networks of Residual Networks: Multilevel Residual Networks”, IEEE Transactions on Circuits and Systems for Video Technology, 2017
- Ke Zhang, Ce Gao, Liru Guo, Miao Sun, Xingfang Yuan, Tony X. Han, Zhenbing Zhao, Baogang Li, “Age Group and Gender Estimation in the Wild with Deep RoR Architecture”, IEEE Access, 2017.
- Renzhi Cao, Colton Freitas, Leong Chan, Miao Sun, Haiqing Jiang, Zhangxin Chen, “ProLanGO: Protein Function Prediction Using Neural Machine Translation Based on a Recurrent Neural Network”, Molecules 2017.
- Renzhi Cao, Badri Adhikari, Debswapna Bhattacharya, Miao Sun, Jie Hou, Jianlin Cheng, “QA-con: single model quality assessment using protein structural and contact information with machine learning techniques”, Bioinformatics 2017
- Ke Zhang, Liru Guo, Ce Gao, Zhenbing Zhao, Miao Sun, Xingfang Yuan, “Age group classification in the wild with deep RoR architecture”, IEEE International Conference on Image Processing, 2017 .

PATENTS

- “Regionlets with Shift Invariant Neural Patterns for Object Detection”, with Xiaoyu Wang, etc, at Laboratories America, Inc, patent filed. U.S. No. 9,202,144, in 2015