

CONTACT INFORMATION

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EDUCATION

PhD in Computer Science Sep. 2018 - Now
University of Maryland, Colledge Park (UMD)
Advisor: Abhinav Shrivastava

Master in Pattern Recognition & Intelligent System Sep. 2015 - Jun. 2018
Huazhong University of Science&Technology (HUST)
Advisor: Guoyou Wang

B.Eng in Optoelectronic Information Engineering Sep. 2011 - Jun. 2015
Huazhong University of Science&Technology (HUST)

INTERESTS

Deep learning, computer vision, particularly object detection, model ensemble, model compression and video understanding

RESEARCH PROJECTS

Hierarchical relation network for object detection Apr. 2020
Problem: Introduce hierarchical relation reasoning through graph neural network for object detection task
Paper: HR-RCNN: Hierarchical Relational Reasoning for Object Detection

The Lottery Ticket Hypothesis for Object Recognition May. 2020
Problem: An empirical study investigating Lottery Ticket Hypothesis (LTH) for model pruning in the context of object detection, instance segmentation, and keypoint estimation.
Paper: The Lottery Ticket Hypothesis for Object Recognition

Ensemble Learning for Deep ConvNet Jul. 2019
Problem: How to embed explicit ensemble learning in a single ConvNet
Paper: Group Ensemble: Learning an Ensemble of ConvNets in a single ConvNet

3D dropout and attention modeling for video understanding Apr. 2019
Problem: How to embed explicit ensemble learning in a single ConvNet

Weighted Intersection over Union Oct. 2018
Problem: Define a scale-adaptive IoU metric for object detection

Semi-Supervised Transfer Detection Dec. 2017
Problem: How to train a detector with a few fully-annotated images and many weakly-labelled images, which is based the previous LSTD work.
Paper: Progressive Object Transfer Detection

Low-Shot Transfer Detection: Apr. 2017
Problem: How to train a detector with only a few annotated images.
Paper: LSTD: A Low-Shot Transfer Detector for Object Detectio

Model Compression and Acceleratio Jan. 2017
Problem: How to remove the redundancy of deep CNNs and speedup the inference , especially when transferring general models to a specific task

PUBLICATIONS

- HR-RCNN: Hierarchical Relational Reasoning for Object Detection (Under Preview)
Hao Chen, Abhinav Shrivastava

- Group Ensemble: Learning an Ensemble of ConvNets in a single ConvNet
(**Under Preview**)
Hao Chen, Abhinav Shrivastava
- The Lottery Ticket Hypothesis for Object Recognition
(**Under Preview**)
Sharath Girish, Shishira R. Maiya, Kamal Gupta, **Hao Chen**, Larry Davis, Abhinav Shrivastava
- GTA: Global Temporal Attention for Video Action Understanding
(**Under Preview**)
Bo He, Xitong Yang, Zuxuan Wu, **Hao Chen**, Ser-Nam Lim, Abhinav Shrivastava
- Progressive Object Transfer Detection (**TIP-2020**)
Hao Chen, Yali Wang, Guoyou Wang, Xiang Bai, Yu Qiao
- LSTD: A Low-Shot Transfer Detector for Object Detection (**AAAI-18 Spotlight**)
Hao Chen, Yali Wang, Guoyou Wang, Yu Qiao

EXPERIENCE

- Multimedia Lab at Shenzhen Institutes of Advanced Technology Jan. 2017 - Aug. 2017
Visiting student, work closely with Prof. Yu Qiao.
- Teaching assistant for CMSC320 at Fall 2018 (UMD)
- Research assistant for Prof. Abihnav (UMD) (Spring 2019 - now)

SKILLS

Pytorch, Python, C++, Caffe, OpenCV

AWARDS

- National Endeavor Fellowship in 2013
- UMD Dean Fellowship 2019-2020