ZHANGJIE CAO

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Education

Stanford University   *U.S.A*
PH.D. OF COMPUTER SCIENCE   *September 2018 - Now*

Tsinghua University   *China*
BACHELOR OF SOFTWARE ENGINEERING   *September 2014 - July 2018*
- GPA: 91/100

Publications

Yang Shu, **Zhangjie Cao**, Mingsheng Long, Jianmin Wang. **Transferable Curriculum for Weakly-Supervised Domain Adaptation**. *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2019.

Mingsheng Long, **Zhangjie Cao**, Jianmin Wang, Michael I. Jordan. **Conditional Adversarial Domain Adaptation**. *Neural Information Processing Systems (**NIPS**)* 2018.

Zhangjie Cao, Lijia Ma, Mingsheng Long, Jianmin Wang. **Partial Adversarial Domain Adaptation**. *European Conference on Computer Vision (**ECCV**)*, 2018.

Mingsheng Long, **Zhangjie Cao**, Jianmin Wang, Han Zhu, Michael I. Jordan. **Learning Transferable Visual Features with Very Deep Adaptation Networks**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)*.

Zhangjie Cao, Mingsheng Long, Ziping Sun, Jianmin Wang. **Deep Priority Hashing**. *ACM Multimedia Conference (**ACM MM**)*, 2018.

Zhangjie Cao, Mingsheng Long, Jianmin Wang, Michael I. Jordan. **Partial Transfer Learning with Selective Adversarial Networks**. *Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2018.

Zhangjie Cao, Mingsheng Long, Chao Huang, Jianmin Wang. **Transfer Adversarial Hashing for Hamming Space Retrieval**. *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2018.

Zhongyi Pei[†], **Zhangjie Cao**[†], Mingsheng Long, Jianmin Wang. **Multi-Adversarial Domain Adaptation**. *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2018. ([†]Equal Contribution)

Mingsheng Long, **Zhangjie Cao**, Jianmin Wang, Philip S. Yu. **Learning Multiple Tasks with Multilinear Relationship Networks**. *Neural Information Processing Systems (**NIPS**)*, 2017.

Zhangjie Cao, Mingsheng Long, Jianmin Wang, Philip S. Yu. **HashNet: Deep Learning to Hash by Continuation**. *International Conference on Computer Vision (**ICCV**)*, 2017.

Zhangjie Cao, Qixing Huang, Ramani Karthik. **3D Object Classification via Spherical Projections**. *International Conference on 3D Vision (**3DV**)*, 2017.

Zhangjie Cao, Mingsheng Long, Qiang Yang. **Transitive Hashing Network for Heterogeneous Multimedia Retrieval**. *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2017. (**Oral Presentation**)

Research Experience

National Lab for Big Data Systems, School of Software, Tsinghua University   *China*
Mentor: Mingsheng Long
PROJECTS ON DEEP LEARNING TO HASH   *Jan. 2016 - Nov. 2017*
- Proposed a new cross-modal retrieval scenario without explicit relationship and a Transitive Hashing Network to solve it.
- Proposed HashNet with binary output and enable optimization of sign activation function by continuation method.
- Proposed Transfer Adversarial Hashing the first model focusing on cross-domain retrieval within Hamming Radius 2.
- Proposed Deep Focal Hashing (DFH) with priority loss to address the class imbalance and easy-hard imbalance problems.

National Lab for Big Data Systems, School of Software, Tsinghua University *China*
Mentor: Mingsheng Long
PROJECTS ON DOMAIN ADAPTATION *Sept. 2016 - June. 2018*
- Proposed a Multi-Adversarial Domain Adaptation to train multiple adversaries weighted by probability over classes.
- Proposed a new partial domain adaptation setting with source label space includes target and a selective adversarial network with multiple adversarial networks and both instance-level and class-level weights to address it.
- Further proposed a single adversarial network architecture to address partial domain adaptation

Department of Computer Science and Lewis-Sigler Institute of Integrative Genomics, Princeton University *U.S.A*
Mentor: Olga Troyanskaya
PROJECT: ALGORITHMS USING DEEP LEARNING FOR NONCODING VARIANTS RECOGNITION *July. 2016 - August. 2016*
- Designed new architecture with multiple classifiers builded on each convolutional layers to exploit low level features and solved the gradient vanishing problem of the original network.
- Considering the relation of different chromatin features (labels), I improved the classifying layer with low rank technical.
- The new architecture outperformed existing methods under standard evaluation criteria such as AUC of PR Curve and ROC Curve.

Department of Computer Science, The University of Texas at Austin *U.S.A*
Mentor: Qixing Huang
PAPER: 3D OBJECT CLASSIFICATION VIA SPHERICAL PROJECTIONS *Feb. 2017 - May. 2017*
- Proposed a spherical representation leveraging depth variation and contour information for 3D objects.
- Developed deep neural networks composing of two parts for depth and contour representation respectively to classify 3D objects.
- Implemented Spherical Projection in caffe framework and carefully designed experiments to compare our method with state of the art methods under standard evaluation criteria on large scale 3D Recognition Dataset.
- Wrote the first version of the paper under the supervision of my mentor.

Department of Computer Science, Stanford University *U.S.A*
Mentor: Juan Carlos Niebles
PROJECT: VIDEO DOMAIN ADAPTATION *Nov. 2018 - Now*
- Proposed video domain adaptation which recognizes actions of the target domain with labeled actions of the same class but different outlooks in a source domain.
- Design an approach which has achieved significant performance.
- The project is still ongoing and target for ICCV 2019.

Department of Computer Science, Stanford University *U.S.A*
Mentor: Juan Carlos Niebles
PROJECT: INTENT PREDICTION *Oct. 2018 - Now*
- Design algorithms for intent prediction in videos.
- The project is still ongoing and target for ICCV 2019.

Honors & Awards

2015	**National Scholarship**, Tsinghua University	*China*
2015	**Best Project Award**, Course of Architecture of Computer and Network	*China*
2016	**Qualcomm Scholarship**, Tsinghua University	*China*
2018	**Rank 3 in Visual Domain Adaptation Challenge (VisDA-2018)**, ECCV2018 Workshop Challenge (http://ai.bu.edu/visda-2018)	*Munich, Germany*
2019	**Outstanding reviewers**, CVPR 2019	*Long Beach, CA, USA*

Skills

Programming	Proficient in Python, C/C++ , LaTeX and Matlab; Familiar with Lua, Bash, JAVA and Haskell
Framework	Proficient in Caffe and PyTorch; Familiar with Torch with Lua and Tensorflow
Languages	English, Chinese (native speaker)