

Zhiqiang Tao

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EDUCATION

- | | |
|---|-------------------------------------|
| Northeastern University
Ph.D. Candidate in Computer Engineering
<i>Advisor:</i> Professor Yun Fu | Boston, MA, USA
09/2015 - now |
| TianJin University
M.S. in Computer Science
<i>Advisor:</i> Professor Xiaochun Cao | Tianjin, China
09/2012 - 01/2015 |
| TianJin University
B.Eng. in Software Engineering | Tianjin, China
09/2008 - 06/2012 |

RESEARCH INTERESTS

- **Fields:** Applied Machine Learning, Data Mining, Computer Vision
- **Themes:** Feature Representation Learning with Reconstruction and Its Applications.
- **Topics:** Unsupervised Deep Feature Learning; Ensemble Clustering; Subspace Clustering; Multi-View Learning; Sequence Learning.
- **Applications:** Image Segmentation and Clustering; Document Clustering; Video Action Prediction and Grouping; User Modeling.

INDUSTRY EXPERIENCE

- **Adobe Research**
Research Intern
San Jose, CA
05/2018 - 08/2018
 - ◇ **Interpretable User Modeling:** Proposed a sequence-to-sequence model with recurrent memory network to learn user representations from log-trace data and software tutorials.
- **Raytheon BBN Technologies**
Research Intern
Cambridge, MA
05/2016 - 08/2016
 - ◇ **Sentence Similarity Learning:** Developed a siamese convolution neural network to learn sentence representations with word embedding.
- **State Key Laboratory of Information Security, IIE CAS**
Research Assistant
Beijing, China
06/2013 - 03/2014
 - ◇ **Visual Saliency Analysis:** Designed a self-adaptively weighted algorithm with low-rank matrix recovery to detect co-salient objects from multiple images.

TEACHING EXPERIENCE

- **LECTURER**
Northeastern University
 - ◇ EECE5642 Data Visualization
Spring 2019
 - ◇ EECE5642 Data Visualization
Fall 2018
- **ASSISTANT**
Northeastern University
 - ◇ EECE5644 Machine Learning and Pattern Recognition
Fall 2017
 - ◇ EECE5642 Machine Learning and Pattern Recognition
Spring 2017

HONORS & AWARDS

- Third Place Award in KDD Cup Auto-ML Track 2019
ACM SIGKDD Conference on Knowledge Discovery and Data Mining
- KDD Student Travel Award 2019
ACM SIGKDD Conference on Knowledge Discovery and Data Mining
- AAAI Student Travel Award 2017
AAAI Conference on Artificial Intelligence
- SIGIR Student Travel Award 2016
ACM International Conference Information and Knowledge Management
- Dean's Fellowship 2015
Northeastern University
- Graduate National Scholarship (top 5/200) 2015
Ministry of Education, China

PUBLICATIONS *Citations: 270, H-index: 9, i10-index: 9 (Google Scholar, July 2019)*

• JOURNAL PAPERS

- ◇ 2 TPAMI, 1 TNNLS, 2 TIP, 1 TKDD, 1 TETCI, 1 SPL, and 1 PRL
- [J-1] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, Zhengming Ding, and Yun Fu, “Marginalized Multi-View Ensemble Clustering”, *IEEE Transactions on Neural Networks and Learning Systems*, *accepted*, 2019.
 - [J-2] **Zhiqiang Tao**, Hongfu Liu, Huazhu Fu, and Yun Fu, “Multi-View Saliency-Guided Clustering for Image Cosegmentation”, *IEEE Transactions on Image Processing*, *accepted*, 2019.
 - [J-3] Sheng Li*, **Zhiqiang Tao***, Kang Li, and Yun Fu, “Visual to Text: Survey of Image and Video Captioning”, *IEEE Transactions on Emerging Topics in Computational Intelligence*, *accepted*, 2019. (* indicates equal contribution.)
 - [J-4] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, Zhengming Ding, and Yun Fu, “Robust Spectral Ensemble Clustering via Rank Minimization”, *ACM Transactions on Knowledge Discovery from Data*, vol. 13, no. 1, pp. 4:1-4:25, 2019.
 - [J-5] Yu Kong, **Zhiqiang Tao**, and Yun Fu, “Adversarial Action Prediction Networks”, *accepted by IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2018.
 - [J-6] Hongfu Liu, **Zhiqiang Tao**, and Yun Fu, “Partition Level Constrained Clustering”, *IEEE Transaction on Pattern Analysis and Machine Intelligence*, vol. 40, no. 10, pp. 2469-2483, 2018.
 - [J-7] Changqing Zhang, **Zhiqiang Tao**, Xingxing Wei, and Xiaochun Cao, “A Flexible Framework of Adaptive Method Selection for Image Saliency Detection”, *Pattern Recognition Letters*, vol. 63, pp. 66-70, 2015.
 - [J-8] Xingxing Wei, **Zhiqiang Tao**, Changqing Zhang, and Xiaochun Cao, “Structured Saliency Fusion Based on Dempster-Shafer Theory”, *IEEE Signal Processing Letters*, vol. 22, no. 9, pp. 1345-1349, 2014.
 - [J-9] Xiaochun Cao, **Zhiqiang Tao**, Bao Zhang, Huazhu Fu, and Wei Feng, “Self-adaptively Weighted Co-saliency Detection via Rank Constraint”, *IEEE Transaction on Image Processing*, vol. 23, no. 9, pp. 4175-4186, 2014.

• CONFERENCE PAPERS

- ◇ 1 SIGKDD, 2 AAAI, 4 IJCAI, 1 CIKM, 1 CVPR, 1 ICCV, 1 ICDM, and 4 [IEEE Big Data, FG, ACM MM, ICME]
- [C-1] **Zhiqiang Tao**, Sheng Li, Zhaowen Wang, Chen Fang, Longqi Yang, Handong Zhao, and Yun Fu, “Log2Intent: Towards Interpretable User Modeling via Recurrent Semantics Memory Unit”, *SIGKDD*, 2019.

- [C-2] **Zhiqiang Tao**, Hongfu Liu, Jun Li, Zhaowen Wang, and Yun Fu, “Adversarial Graph Embedding for Ensemble Clustering”, IJCAI, 2019.
- [C-3] Chaoyang Li, Qianqian Wang, **Zhiqiang Tao**, Quanxue Gao, and Zhaohua Yang, “Deep Adversarial Network for Multi-view Clustering”, IJCAI, 2019.
- [C-4] Lichen Wang, Zhengming Ding, **Zhiqiang Tao**, Yunyu Liu, and Yun Fu, “Generative Multi-View Human Action Recognition”, ICCV, 2019.
- [C-5] Songyao Jiang, **Zhiqiang Tao**, and Yun Fu, “Segmentation Guided Image-to-Image Translation with Adversarial Networks”, FG, 2019.
- [C-6] Qianqian Wang, Zhengming Ding, **Zhiqiang Tao**, Quanxue Gao, and Yun Fu, “Partial Multi-View Clustering via Consistent GAN”, ICDM, 2018.
- [C-7] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, Zhengming Ding, and Yun Fu, “From Ensemble Clustering to Multi-View Clustering”, IJCAI, 2017.
- [C-8] Jun Li, Handong Zhao, **Zhiqiang Tao**, and Yun Fu, “Large-scale Subspace Clustering by Fast Regression Coding”, IJCAI, 2017.
- [C-9] Yu Kong, **Zhiqiang Tao**, and Yun Fu, “Deep Sequential Context Networks for Action Prediction”, CVPR, 2017.
- [C-10] **Zhiqiang Tao**, Hongfu Liu, Huazhu Fu, and Yun Fu, “Image Cosegmentation via Saliency-Guided Constraint Clustering with Cosine Similarity”, AAAI, 2017.
- [C-11] **Zhiqiang Tao**, Hongfu Liu, and Yun Fu, “Simultaneous Clustering and Ensemble”, AAAI, 2017.
- [C-12] Sheng Li, Hongfu Liu, **Zhiqiang Tao**, and Yun Fu, “Multi-View Graph Learning with Adaptive Label Propagation”, IEEE International Conference on Big Data, 2017.
- [C-13] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, and Yun Fu, “Robust Spectral Ensemble Clustering”, CIKM, 2016.
- [C-14] Xiaochun Cao, Yupeng Cheng, **Zhiqiang Tao**, and Huazhu Fu, “Co-saliency Detection via Base Reconstruction”, ACM MM, 2014.
- [C-15] Xiaochun Cao, **Zhiqiang Tao**, Bao Zhang, Huazhu Fu, and Xuewei Li, “Saliency Map Fusion Based on Rank-one Constraint”, ICME, 2013.

• PREPRINTS

- [P-1] **Zhiqiang Tao**, Hongfu Liu, Yu Kong, and Yun Fu, “Higher-Order Subspace Clustering via Cluster Structure Encoding”, submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence, *under review*, 2019.
- [P-2] Hongfu Liu, **Zhiqiang Tao**, Zhengming Ding, and Yun Fu, “Semantics Recovery for Generalized Image Understanding”, submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence, *under review*, 2019.
- [P-3] Hongfu Liu, **Zhiqiang Tao**, Zhengming Ding, and Yun Fu, “Consensus Clustering: An Embedding Perspective, Extension and Beyond”, *arXiv preprint arXiv:1906.00120*, 2019.
- [P-4] Jun Li, Hongfu Liu, **Zhiqiang Tao**, Handong Zhao, and Yun Fu, “Learnable Subspace Clustering”, submitted to IEEE Transactions on Neural Networks and Learning Systems, *under review*, 2019.
- [P-5] Jun Li, **Zhiqiang Tao**, Yue Wu, and Yun Fu, -, submitted to ICDM, 2019.
- [P-6] Qianqian Wang, Zhengming Ding, **Zhiqiang Tao**, Quanxue Gao, and Yun Fu, “Generative Partial Multi-View Clustering”, 2019.

PROFESSIONAL • Program Committee
ACTIVITIES

- ◇ IJCAI-2019 TUSION Workshop 2019
- ◇ AAAI Conference on Artificial Intelligence 2019
- ◇ IEEE International Conference on Multimedia and Expo (ICMEW) 2019
- ◇ AAAI Conference on Artificial Intelligence 2018
- ◇ MICCAI Workshop on Ophthalmic Medical Image Analysis 2016

• Journal Reviewer

- ◇ IEEE Transactions on Neural Networks and Learning Systems
- ◇ IEEE Transactions on Cybernetics
- ◇ IEEE Transactions on Control Systems Technology
- ◇ IEEE Transactions on Emerging Topics in Computational Intelligence
- ◇ IEEE Computational Intelligence Magazine
- ◇ Image and Vision Computing
- ◇ Neurocomputing
- ◇ Journal of Electronic Imaging (JEI)