Zhiqiang Tao

Department of Computer Science and Engineering
Santa Clara University
500 El Camino Real, Santa Clara, CA 95053

Homepage: http://ztao.cc/
E-mail: ztao@scu.edu
Tel: (781) 605-9932

EDUCATION	**Northeastern University** Ph.D. in Computer Engineering *Advisor*: Professor Yun Raymond Fu	Boston, MA, USA 09/2015 - 08/2020
	Tianjin University M.S. in Computer Science *Advisor*: 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:** Machine Learning, Data Mining, Computer Vision
- **Topics:** Unsupervised Deep Feature Learning; Autoencoders; Ensemble Clustering; Multi-View Learning; Sequence Learning, Auto-ML, Hyperparameter Optimization
- **Applications:** Image Segmentation and Clustering; Document Clustering; Video Action Prediction and Grouping; User Modeling.

WORK EXPERIENCE

Santa Clara University, Santa Clara, CA — 09/2020 - *Present*
Tenure-Track Assistant Professor, Department of Computer Science and Engineering

Northeastern University, Boston, MA — 09/2018 - 12/2019
Part-Time Teaching Faculty, Department of Electrical and Computer Engineering

INDUSTRY EXPERIENCE

Alibaba's DAMO Academy — Bellevue, WA
Research Intern — 05/2019 - 08/2019

Adobe Research — San Jose, CA
Research Intern — 05/2018 - 08/2018

Raytheon BBN Technologies — Cambridge, MA
Research Intern — 05/2016 - 08/2016

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

PROPOSAL WRITING

Key Contributor for Funded Proposals:

1. Multi-Functional Optical Meta-Systems Enabled by Deep-Learning -Aided Inverse Design $529,539
   NSF Electrical, Communications and Cyber Systems   06/2019 - 05/2022

Key Contributor for Pending Proposals:

2. FAI: Visual Relational Fairness: Identification, Inference and Generalization
   NSF Information and Intelligent Systems   2019

3. Modernizing the Science and Management of Sidewalks: Capitalizing on and Responding to Emergent Technologies
   NSF Smart and Connected Communities   2019

PUBLICATIONS *Citations: 601, h-index: 14, i10-index: 17 (Google Scholar, Dec. 2020)*

- **CONFERENCE PAPERS**

  ◇ 1 NeurIPS, 1 SIGKDD, 3 AAAI, 5 IJCAI, 1 CIKM, 1 CVPR, 1 ICCV, 1 ICLR, 1 ICDM, and 4 [IEEE Big Data, FG, ACM MM, ICME]

[C-1] Yue Bai, Lichen Wang, **Zhiqiang Tao**, Sheng Li, and Yun Fu, "Correlative Channel-Aware Fusion for Multi-View Time Series Classification", AAAI, 2021.

[C-2] **Zhiqiang Tao**, Yaliang Li, Bolin Ding, Ce Zhang, Jingren Zhou, and Yun Fu, "Learning to Mutate with Hypergradient Guided Population", NeurIPS, 2020.

[C-3] Jiafeng Cheng, Qianqian Wang, **Zhiqiang Tao**, Deyan Xie, and Quanxue Gao, "Multi-View Attribute Graph Convolution Networks for Clustering", IJCAI, 2020.

[C-4] Huaxiu Yao, Xian Wu, **Zhiqiang Tao**, Yaliang Li, Bolin Ding, Ruirui Li, Zhenhui Li, "Automated Relational Meta-learning", ICLR, 2020.

[C-5] **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-6] **Zhiqiang Tao**, Hongfu Liu, Jun Li, Zhaowen Wang, and Yun Fu, "Adversarial Graph Embedding for Ensemble Clustering", IJCAI, 2019.

[C-7] Chaoyang Li, Qianqian Wang, **Zhiqiang Tao**, Quanxue Gao, and Zhaohua Yang, "Deep Adversarial Network for Multi-view Clustering", IJCAI, 2019.

[C-8] Lichen Wang, Zhengming Ding, **Zhiqiang Tao**, Yunyu Liu, and Yun Fu, "Generative Multi-View Human Action Recognition", ICCV, 2019.

[C-9] Songyao Jiang, **Zhiqiang Tao**, and Yun Fu, "Segmentation Guided Image-to-Image Translation with Adversarial Networks", FG, 2019.

[C-10] Qianqian Wang, Zhengming Ding, **Zhiqiang Tao**, Quanxue Gao, and Yun Fu, "Partial Multi-View Clustering via Consistent GAN", ICDM, 2018.

[C-11] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, Zhengming Ding, and Yun Fu, "From Ensemble Clustering to Multi-View Clustering", IJCAI, 2017.

[C-12] Jun Li, Handong Zhao, **Zhiqiang Tao**, and Yun Fu, "Large-scale Subspace Clustering by Fast Regression Coding", IJCAI, 2017.

[C-13] Yu Kong, **Zhiqiang Tao**, and Yun Fu, "Deep Sequential Context Networks for Action Prediction", CVPR, 2017.

[C-14] **Zhiqiang Tao**, Hongfu Liu, Huazhu Fu, and Yun Fu, "Image Cosegmentation via Saliency-Guided Constraint Clustering with Cosine Similarity", AAAI, 2017.

[C-15] **Zhiqiang Tao**, Hongfu Liu, and Yun Fu, "Simultaneous Clustering and Ensemble", AAAI, 2017.

[C-16] 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-17] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, and Yun Fu, "Robust Spectral Ensemble Clustering", CIKM, 2016.

[C-18] Xiaochun Cao, Yupeng Cheng, **Zhiqiang Tao**, and Huazhu Fu, "Co-saliency Detection via Base Reconstruction", ACM MM, 2014.

[C-19] Xiaochun Cao, **Zhiqiang Tao**, Bao Zhang, Huazhu Fu, and Xuewei Li, "Saliency Map Fusion Based on Rank-one Constraint", ICME, 2013.

- **JOURNAL PAPERS**

    ◇ 2 TPAMI, 2 TNNLS, 4 TIP, 1 TCYB, 1 TKDD, 1 TETCI, 1 SPL, and 1 PRL

[J-1] Jun Li, **Zhiqiang Tao**, Bineng Zhong, Yue Wu, and Yun Fu, "Large-Scale Subspace Clustering by Independent Distributed and Parallel Coding", IEEE Transactions on Cybernetics, *to appear*, 2021.

[J-2] Songyao Jiang, **Zhiqiang Tao**, and Yun Fu, "Geometrically Editable Image-to-Image Translation with Adversarial Networks", IEEE Transactions on Image Processing, *to appear*, 2021.

[J-3] Qianqian Wang, Zhengming Ding, **Zhiqiang Tao**, Quanxue Gao, and Yun Fu, "Generative Partial Multi-View Clustering with Adaptive Fusion and Cycle Consistency", IEEE Transactions on Image Processing, *to appear*, 2020.

[J-4] Jun Li, Hongfu Liu, **Zhiqiang Tao**, Handong Zhao, and Yun Fu, "Learnable Subspace Clustering", IEEE Transactions on Neural Networks and Learning Systems, 2020.

[J-5] **Zhiqiang Tao**, Hongfu Liu, Sheng Li, Zhengming Ding, and Yun Fu, "Marginalized Multi-View Ensemble Clustering", IEEE Transactions on Neural Networks and Learning Systems, vol. 31, no. 2, pp. 600-611, 2020.

[J-6] **Zhiqiang Tao**, Hongfu Liu, Huazhu Fu, and Yun Fu, "Multi-View Saliency-Guided Clustering for Image Cosegmentation", IEEE Transactions on Image Processing, vol. 28, no. 9, pp. 4634-4645, 2019.

[J-7] 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, vol. 3, no. 4, pp. 297-312, 2019. (∗ indicates equal contribution.)

[J-8] **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-9] Yu Kong, **Zhiqiang Tao**, and Yun Fu, "Adversarial Action Prediction Networks", IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 42, no. 3, pp. 539-553, 2020.

[J-10] 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-11] 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-12] 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-13] 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.

PATENTS Interpretable User Modeling From Unstructured User Data
Handong Zhao, **Zhiqiang Tao**, Zhaowen Wang, Sheng Li, Chen Fang, US Patent 16/424,949

TEACHING EXPERIENCE	• **Instructor**	Santa Clara University
	◊ COEN240 Machine Learning	Fall 2020
	◊ COEN240 Machine Learning	Winter 2020
	• **Instructor**	Northeastern University
	◊ EECE5642 Data Visualization	Fall 2019
	◊ EECE5642 Data Visualization	Spring 2019
	◊ EECE5642 Data Visualization	Fall 2018
	• **Teaching Assistant**	Northeastern University
	◊ EECE5644 Machine Learning and Pattern Recognition	Fall 2017
	◊ EECE5642 Machine Learning and Pattern Recognition	Spring 2017

ACADEMIC SERVICES	• **Senior Program Committee**	
	◊ International Joint Conference on Artificial Intelligence	2021
	• **Program Committee**	
	◊ International Conference on Machine Learning	2021
	◊ IEEE Conference on Computer Vision and Pattern Recognition	2021
	◊ Neural Information Processing Systems	2020
	◊ AAAI Conference on Artificial Intelligence	2019-2021
	◊ International Joint Conference on Artificial Intelligence	2020-2021
	◊ Multimedia Information Processing and Retrieval	2019, 2021
	• **Journal Reviewer**	
	◊ IEEE Transactions on Neural Networks and Learning Systems	
	◊ IEEE Transactions on Knowledge and Data Engineering	
	◊ IEEE Transactions on Image Processing	
	◊ IEEE Transactions on Cybernetics	
	◊ IEEE Transactions on Circuits and Systems for Video Technology	
	◊ IEEE Transactions on Multimedia	
	◊ IEEE Transactions on Cognitive and Developmental Systems	
	◊ IEEE Transactions on Emerging Topics in Computational Intelligence	
	◊ IEEE Computational Intelligence Magazine	
	◊ Pattern Recognition	
	◊ Image and Vision Computing	
	◊ Neurocomputing	
	◊ Journal of Electronic Imaging (JEI)	
	◊ Digital Signal Processing (DSP)	

ACADEMIC TALKS	• SIGKDD, Anchorage, Alaska	Aug. 3-7, 2019
	• AAAI, San Francisco, California	Feb. 4-9, 2017
	• CIKM, Indianapolis, Indiana	Oct. 24-28, 2016