Zhiqiang Tao

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Santa Clara University
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EDUCATION		
Northeastern University		Boston, MA, USA
Ph.D. in Computer Engineering		09/2015 - 08/2020
Advisor: Professor Yun Raymond Fu		
Tianjin University		Tianjin, China
M.S. in Computer Science		09/2012 - 01/2015
Advisor: Professor Xiaochun Cao		
Tianjin University		Tianjin, China
B.Eng. in Software Engineering		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

- **Tenure-Track Assistant Professor** — 09/2020 - *Present*
  Department of Computer Science and Engineering
  Santa Clara University, Santa Clara, CA
- **Part-Time Teaching Faculty** — 09/2018 - 12/2019
  Department of Electrical and Computer Engineering
  Northeastern University, Boston, MA

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

TEACHING EXPERIENCE	• **Instructor**	Santa Clara University

TEACHING EXPERIENCE

- • **Instructor** — Santa Clara University
  - ◇ COEN240 Machine Learning — Fall 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

PROPOSAL WRITTING

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: 583, h-index: 14, i10-index: 16 (Google Scholar, Dec. 2020)*

- • **JOURNAL PAPERS**

  - ◇ 2 TPAMI, 2 TNNLS, 3 TIP, 1 TKDD, 1 TETCI, 1 SPL, and 1 PRL

[J-1] 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, 2020.

[J-2] Jun Li, Hongfu Liu, **Zhiqiang Tao**, Handong Zhao, and Yun Fu, "Learnable Subspace Clustering", IEEE Transactions on Neural Networks and Learning Systems, 2020.

[J-3] **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-4] **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-5] 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-6] **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-7] 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-8] 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-9] 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-10] 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-11] 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 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.

- **PREPRINTS**

[P-1] Songyao Jiang, **Zhiqiang Tao**, and Yun Fu, "Geometrically Editable Image-to-Image Translation with Adversarial Networks", submitted to IEEE Transactions on Image Processing, *minor revision*, 2020.

[P-2] Yue Bai, **Zhiqiang Tao**, Lichen Wang, Sheng Li, Yin Yu, and Yun Fu, "Collaborative Attention Mechanism for Multi-View Action Recognition", *arXiv preprint arXiv:2009.06599*, 2020.

[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.

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   2018-2021

  ◇ 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)

ACADEMIC TALKS

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