

# Chao Lan

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## Education

- Ph.D., Computer Science 2017  
University of Kansas
- M.Eng., Pattern Recognition and Intelligent System 2011  
Nanjing University of Posts and Telecommunications
- B.Eng., Electronic and Information Engineering 2008  
Nanjing University of Posts and Telecommunications

## Professional Experience

- Assistant Professor 2020 -  
School of Computer Science  
University of Oklahoma
- Assistant Professor 2017 - 2020  
Department of Computer Science  
University of Wyoming

## Teaching Experience

- CS4033/5033: Machine Learning Fundamentals University of Oklahoma  
*Instructor* Fall, 2021 - 2023
- CS2413: Data Structure University of Oklahoma  
*Instructor* Fall, 2020 - 2023
- COSC4555/5555: Machine Learning University of Wyoming  
*Instructor* Spring, 2018 - 2020
- COSC4550/5550: Introduction to AI University of Wyoming  
*Instructor* Fall, 2018 - 2019

## Award and Honor

- Top Reviewer, UAI 2023
- Top Reviewer, AISTATS 2023
- Top Reviewer, NeurIPS 2022
- Distinguished Paper Award, ACSAC 2021
- Distinguished Lecture, NSF NRT Seminar, University of Kansas 2021
- Top Program Committee Member, AAAI 2021
- NSF CRII Award 2019
- UAI Conference Scholarship 2016
- Robb Award, University of Kansas 2015, 2016
- Data Science Summer Institute Scholarship, UIUC 2012

## Peer-Reviewed Publication

Since 2020 (*Supervised students are marked with asterisk.*)

- Zhen Wang, Madison Cooley, Yang Zhang, Chao Lan, Ji Zhang. Debiased learning of self-labeled Twitter data for user demographic prediction. in *Proc. of the IEEE International Conference on Big Data*, 2022.
- Yiting Cao\* and Chao Lan. Active approximately metric-fair learning. in *Proc. of the 38th Conference on Uncertainty in Artificial Intelligence (UAI)*, 2022.

- Yiting Cao\* and Chao Lan. A model-agnostic randomized learning framework based on random hypothesis subspace sampling. in *Proc. of the 39th International Conference on Machine Learning (ICML)*, 2022.
- Yiting Cao\* and Chao Lan. Fairness-aware active learning. in *Proc. of International Joint Conference on Neural Network (IJCNN)*, 2022.
- Fei Wu, Xiao-Yuan Jing, Pengfei Wei, Chao Lan, Yimu Ji, Guo-Ping Jiang, Qinghua Huang. Semi-supervised multi-view graph convolutional networks with application to webpage classification. *Information Sciences*, 2022.
- Sohaib Kiani, Sana Awan, Chao Lan, Fengjun Li and Bo Luo. Two souls in an adversarial image: Towards universal adversarial example detection using multi-view inconsistency. *Annual Computer Security Applications Conference (ACSAC)*, 2021. (**distinguished paper award**)

#### From 2018 to 2020

- Zhen Wang\* and Chao Lan. Towards a hierarchical Bayesian model of multi-view anomaly detection. *International Joint Conference on Artificial Intelligence (IJCAI)*, 2020.
- Hui Hu\* and Chao Lan. Inference attack and defense mechanisms on the distributed private fair machine learning framework. *AAAI Workshop on Privacy-Preserving Artificial Intelligence (PPAI)*, 2020.
- Hui Hu\*, Zhen Wang\* and Chao Lan. A distributed fair machine learning framework with private demographic data protection. *International Conference on Data Mining (ICDM)*, 2019.
- Zhen Wang\* and Chao Lan. Inductive semi-supervised multi-view anomaly detection via probabilistic modeling. *International Conference on Big Knowledge (ICBK)*, 2019.
- Austin Okray\*, Hui Hu\* and Chao Lan. Fair kernel regression via fair feature embedding in RKHS. *International Conference on Tools with Artificial Intelligence (ICTAI)*, 2019.
- Dheeraj Bhaskaruni\*, Hui Hu\* and Chao Lan. Improving Prediction Fairness via Model Ensemble. *International Conference on Tools with Artificial Intelligence (ICTAI)*, 2019.
- Zhen Wang\*, Suresh Muknahallipatna, Maohong Fan, Austin Okray\* and Chao Lan. Music classification using an improved CRNN with multi-directional spatial dependencies in both time and frequency dimensions. *International Joint Conference on Neural Network (IJCNN)*, 2019.
- Fei Wu, Xiaoyuan Jing, Jun Zhou, Yimu Ji, Chao Lan, Qinghua Huang, Changhui Hu and Ruchuan Wang. Semi-supervised multi-view individual and sharable feature learning for webpage classification. *The Web Conference (WWW)*, 2019.
- Zhenlong Xiao, Zhuo Li and Chao Lan. Anomalous sensor detection based on nonlinear graph filter. *Global Conference on Signal and Information Processing (GlobalSIP)*, 2019.
- Chao Lan, Sai Nivi Chandrasekaran and Jun Huan. On the unreported-profile-is-negative assumption for predictive cheminformatics. *IEEE/ACM Trans. Computational Biology and Bioinformatics (TCBB)*, 2019.
- Dheeraj Bhaskaruni\*, Fiona Moss and Chao Lan. Estimating prediction qualities without ground truth: A revisit of the reverse testing framework. *International Conference on Pattern Recognition (ICPR)*, 2018.

#### From 2013 to 2017

- Chao Lan and Jun Huan. Discriminatory transfer. *Workshop on Fairness, Accountability, and Transparency in Machine Learning (FAT/ML)*, 2017.
- Chao Lan, Yuhao Yang, Xiaoli Li, Bo Luo and Jun Huan. Learning social circles in ego-networks based on multi-view network structure. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2017.
- Chao Lan, Jianxin Wang and Jun Huan. Towards a theoretical understanding of negative transfer in collective matrix factorization. *The Conference on Uncertainty in Artificial Intelligence (UAI)*, 2016.
- Chao Lan, Yujie Deng and Jun Huan. A disagreement-based active matrix completion approach with provable guarantee. *International Joint Conference on Neural Networks (IJCNN)*, 2016.
- Chao Lan, Yujie Deng, Xiaoli Li and Jun Huan. Co-regularized least square regression for multi-view multi-class classification. *International Joint Conference on Neural Networks (IJCNN)*, 2016.
- Chao Lan, Sai Nivedita Chandrasekaran and Jun Huan. Learning with positive and unknown features. *International Conference on Bioinformatics and Biomedicine (BIBM)*, 2016.
- Chao Lan, Sai Nivedita Chandrasekaran and Jun Huan. A distributed and privatized framework for drug-target interaction prediction. *International Conference on Bioinformatics and Biomedicine (BIBM)*, 2016.
- Chao Lan and Jun Huan. Reducing the unlabeled sample complexity of semi-supervised multi-view learning. *SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2015.
- Yuhao Yang, Chao Lan, Xiaoli Li, Bo Luo and Jun Huan. Automatic social circle detection using multi-view clustering. *Conference on Information and Knowledge Management (CIKM)*, 2014.

## From 2010 to 2012

- Xiaoyuan Jing, Sheng Li, David Zhang, Chao Lan and Jingyu Yang. Optimal subset-division based discrimination and its kernelization for face and palmprint recognition. *Pattern Recognition*, 2012.
- Xiaoyuan Jing, Chao Lan, David Zhang, Jiangyue Man, Min Li, Sheng Li and Songhao Zhu. Face feature extraction and recognition based on discriminant subclass-center manifold preserving projection. *Pattern Recognition Letters*, 2012.
- Xiaoyuan Jing, Sheng Li, Chao Lan, David Zhang, Jingyu Yang and Qian Liu. Color image canonical correlation analysis for face feature extraction and recognition. *Signal Processing*, 2011.
- Chao Lan, Xiaoyuan Jing, David Zhang, Shiqiang Gao and Jingyu Yang. Discriminant subclass-center manifold preserving projection for face feature extraction. *Int. Conf. Image Processing (ICIP)*, 2011.
- Jiangyue Man, Xiaoyuan Jing, David Zhang and Chao Lan. Sparse cost-sensitive classifier with application to face recognition. *Int. Conf. Image Processing (ICIP)*, 2011.
- Xiaoyuan Jing, Qian Liu, Chao Lan, Jiangyue Man, Sheng Li and David Zhang. Holistic orthogonal analysis of discriminant transforms for color face recognition. *Int. Conf. Image Processing (ICIP)*, 2010.

## Professional Service

- Associate Editor: *ACM Transactions on Probabilistic Machine Learning*
- Area Chair: *NeurIPS'24*
- Conference Reviewer: *ICML'22/24*, *UAI'23-24*, *NeurIPS'22-23*, *AISTATS'23*, *KDD'20-22*, *AAAI'19-22*, *IJCAI'21-22*, *PAKDD'19-22*, *SDM'22*, *IEEE BigData'19-20*, *ICTAI'20*
- NSF Reviewer'19-22

## External Grant

- Senior Personnel: NSF Predictive Intelligence for Pandemic Prevention (Phase I) 2022 - 2024  
Next generation surveillance incorporating public health, one health, and data science to detect emerging pathogens of pandemic potential.
- PI: NSF CRII 2019 - 2022  
Fair machine learning with restricted access to sensitive personal data.

## Talk

- Randomized Machine Learning: Techniques and Performance  
– Oklahoma Conference for Statistics, Biostatistics and Data Science, 2022.
- Machine Learning with Small Data  
– Industry and Government Day, University of Oklahoma, 2022.
- Machine Learning and its Applications in Algorithmic Ethics  
– ISE Graduate Seminar, University of Oklahoma, 2021.  
– NSF Research Traineeship Program Seminar, University of Kansas, 2021.  
– AT&T Professional Engineer Employee Network Educational Session Seminar, 2021.
- Achieving Algorithmic Fairness with Restricted Access to Private Personal Data  
– University of Oklahoma, 2020.  
– University of Kentucky, 2020.
- Introduction to Ethical Learning  
– Computational and Applied Mathematics Seminar, University of Wyoming, 2018.  
– NSF REU Seminar, University of Wyoming, 2019.
- Introduction to Anomaly Detection  
– K12 Summer CAMP, University of Wyoming, 2018.
- Fairness-Aware Machine Learning  
– Lawrence Berkeley National Lab, 2017.  
– University of Wyoming, 2017.  
– University of Massachusetts, Lowell, 2017.
- Safe Data Analytics  
– SIGKDD Tutorial (with Jun Huan and Xiaoli Li), SIGKDD Conference, 2017.