

Changchang Yin

🔗 Google Scholar | 🌐 github.com/yinchangchang | ✉ yin.731@osu.edu

Education

- The Ohio State University, USA Aug 2019 -
Ph.D. of Computer Science and Engineering
Advisor: Prof. Ping Zhang
- Xi'an Jiaotong University, China Sep 2016 - Jun 2019
Master of Computer Science and Technology
Advisor: Prof. Buyue Qian
- Xi'an Jiaotong University, China Sep 2012 - Jun 2016
Bachelor of Computer Science and Technology

Research Interests

My research interests lie in data mining, machine learning and their application to trustworthy AI (e.g., fairness and causal inference), computational medicine (e.g., predictive modeling, patient subtyping and medical imaging).

Publications

1. Changchang Yin, Ruoqi Liu, Jeffrey Caterino, Ping Zhang. Deconfounding actor-critic network with policy adaptation for dynamic treatment regimes. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2022 (Acceptance rate: $254/1695 = 15.0\%$, research track)
2. Changchang Yin, Sayoko Moroi, Ping Zhang. Predicting age-related macular degeneration progression with contrastive attention and time-aware LSTM. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2022 (Acceptance rate: $195/753 = 25.9\%$, applied data science track)
3. Thai-Hoang Pham, Changchang Yin, Laxmi Mehta, Xueru Zhang, Ping Zhang Cardiac complication risk profiling for cancer survivors via multi-view multi-task learning. IEEE International Conference on Data Mining (ICDM), 2021 (Acceptance rate: $98/990 = 9.9\%$, regular paper, oral presentation. Selected as one of the best papers and invited to KAIS Journal Special Issue)
4. Zicong Zhang, Changchang Yin, Ping Zhang. Temporal clustering with external memory network for disease progression modeling. IEEE International Conference on Data Mining (ICDM), 2021 (Acceptance rate: $98/990 = 9.9\%$, regular paper, oral presentation)
5. Fenglin Liu, Changchang Yin, Xian Wu, Shen Ge, Ping Zhang, Xu Sun. Contrastive attention for automatic medical report generation. Findings of Annual Meeting of the Association for Computational Linguistics (Findings of ACL), 2021
6. Yuanfang Guan, Hongyang Li, Daiyao Yi, Dongdong Zhang, Changchang Yin, Keyu Li, Ping Zhang. A survival model generalized to regression learning algorithms. Nature Computational Science 1:433–440, 2021
7. Zicong Zhang, Kimerly Powell, Changchang Yin, Shilei Cao, Dani Gonzalez, Yousef Hannawi, Ping Zhang Brain atlas guided attention U-net for white matter hyperintensity segmentation. American Medical Informatics Association Informatics Summit (AMIA Summit), 2021 (Buckeye AI, one of the top solutions for WMH Segmentation Challenge)
8. Dongdong Zhang, Changchang Yin, Katherine Hunold, Xiaoqian Jiang, Jeffrey Caterino, Ping Zhang. An interpretable deep-learning model for early prediction of sepsis in the emergency department. Patterns 2:100196, 2021 (Buckeye AI, one of the winning teams for 2019 DII National Data Science Challenge)
9. Sundreen Asad Kamal, Changchang Yin, Buyue Qian, Ping Zhang. An interpretable risk prediction model for healthcare with pattern attention. BMC Medical Informatics and Decision Making 20:307, 2020
10. Ruoqi Liu, Changchang Yin, Ping Zhang. Estimating individual treatment effects with time-varying confounders. IEEE International Conference on Data Mining (ICDM), 2020 (Acceptance rate: $91/930 = 9.8\%$, regular paper, oral presentation)
11. Dongdong Zhang, Changchang Yin, Jucheng Zeng, Xiaohui Yuan, Ping Zhang. Combining structured and unstructured data for predictive models: a deep learning approach. BMC Medical Informatics and Decision Making 20:280, 2020

12. Rui Li, Changchang Yin, Samuel Yang, Buyue Qian, Ping Zhang. Marrying medical domain knowledge with deep learning on electronic health records: a deep visual analytics approach. *Journal of Medical Internet Research (JMIR)* 22(9):e20645, 2020 (Impact factor: 5.034. Featured on AMIA 2021 Year-in-Review)
13. Changchang Yin, Ruoqi Liu, Dongdong Zhang, Ping Zhang. Identifying sepsis subphenotypes via time-aware multi-modal auto-encoder. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2020 (Acceptance rate: $216/1279 = 16.9\%$, research track, oral presentation)
14. Changchang Yin, Rongjian Zhao, Buyue Qian, Xin Lv, Ping Zhang. Domain knowledge guided deep learning with electronic health records. *IEEE International Conference on Data Mining (ICDM)*, 2019 (Acceptance rate: $95/1046 = 9.1\%$, regular paper, oral presentation)
15. Changchang Yin, Buyue Qian, Xianli Zhang, Yang Li, Qinghua Zheng. Automatic generation of medical imaging diagnostic report with hierarchical recurrent neural network. *IEEE International Conference on Data Mining (ICDM)*, 2019 (Acceptance rate: $95/1046 = 9.1\%$, regular paper, oral presentation)
16. Xianli Zhang, Buyue Qian, Yang Li, Changchang Yin, Xudong Wang, Qinghua Zheng. KnowRisk: an interpretable knowledge-guided model for disease risk prediction. *2019 IEEE International Conference on Data Mining (ICDM)*, 1492-1497
17. Changchang Yin, Buyue Qian, Shilei Cao, Xiaoyu Li, Jishang Wei, Qinghua Zheng, Ian Davidson. Deep similarity-based batch mode active learning with exploration-exploitation. *IEEE International Conference on Data Mining (ICDM)*, 2017.
18. Shilei Cao, Buyue Qian, Changchang Yin, Xiaoyu Li, Jishang Wei, Qinghua Zheng, Ian Davidson. Knowledge guided short-text classification for healthcare applications. *2017 IEEE International Conference on Data Mining (ICDM)*, 31-40
19. Zihao Zhu, Changchang Yin, Buyue Qian, Yu Cheng, Jishang Wei, Fei Wang. Measuring patient similarities via a deep architecture with medical concept embedding. *IEEE International Conference on Data Mining (ICDM)*, 2016.

Services

- Conference reviewer: KDD, AMIA.
- Journal reviewer: JMIR, JBHI, NCAA, BMC Medical Informatics and Decision Making.
- Conference sub reviewer: ICML, NeurIPS, ICLR, IJCAI, AAI, ICDM, SDM.
- Journal sub reviewer: Nature Communications, Nature Machine Intelligence, Patterns, BMC Bioinformatics.