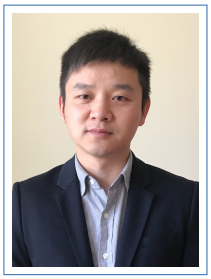
Tao Zhou

Ph.D.

Professor
Nanjing University of Science and Technology, China
✉ *taozhou.ai@gmail.com*



Introcution

My research interests include Medical Image Analysis, Computer Vision, Pattern Recognition, Image and Video Processing, Machine Learning. Specifically, I focus on multi-view/modal learning and its applications, disease diagnosis, medical image segmentation, image synthesis, etc. I have published more than 90 technical papers in prominent journals and top-tier conferences such as IEEE TPAMI, IEEE TIP, IEEE TNNLS, IEEE TCYB, IEEE TMI, IEEE TBME, IEEE TCSVT, IEEE JBHI, CVPR, ICCV, AAAI, IJCAI, MICCAI, etc. These research works have attracted increasing concern and received more than 6,400 citations.

Personal Website: https://taozh2017.github.io/.

Google Scholar: https://scholar.google.com/citations?user=LPPsgWUAAAAJ&hl=zh-CN.

Education

Sep.2012–Jun.2016 **Ph.D in Pattern Recognition and Intelligent System**.
Shanghai Jiao Tong University, Shanghai, China.
Research Area: Visual tracking, Object detection, Machine learning.
Supervisor: *Prof.* Jie Yang.

July.2009–Mar.2012 **M.S. in Computer Application Technology**.
Jiangnan University, Wuxi, China.
Research Area: Face recognition, Feature extraction.
Supervisor: *Prof.* Xiaojun Wu.

Sep.2005–July.2009 **B.A. in Electronic Information Science and Technology**.
Information Engineering University, Zhengzhou, China.

Experience

Jan.2021–Now **Professor**.
School of Computer Science and Technology, Nanjing University of Science and Technology, Nanjing, China.
Research Area: Medical Computing, Machine Learning, Computer vision.

Dec.2018–Jan.2021 **Research Scientist**.
Inception Institute of Artificial Intelligence, Abu Dhabi, UAE.
Research Area: Medical Computing, Machine Learning.
Supervisors: *Prof.* Jianbing Shen and *Prof.* Ling Shao.

Jul.2016– **Postdoctoral Fellow**.
Nov.2018 The University of North Carolina at Chapel Hill, USA.
Research Area: Medical Computing, Deep Learning and Machine Learning.
Supervisor: *Prof.* Dinggang Shen.

Mar.2014– **Visiting student**.
Jun.2014 Visual Signal Analysis and Processing Research Center.
Khalifa University, Abu Dhabi, UAE.
Research Area: Head detection, Graph matching, Object tracking.
Supervisor: *Prof.* Harish Bhaskar.

Awards

- Honorable Mention Award by the Journal of Computational Visual Media *2024*
- Top 2% Scientists Worldwide, identified by Stanford University *2023*

Projection

- Research on Key Algorithms of Representation Learning for Complex Multi-modal Medical Images, National Natural Science Foundation of China (general program), **PI**, 2021-2024.
- Project title: Medical image segmentation algorithm under limited labeled data. Nanjing overseas Science and Technology Innovation Project, **PI**, 2022-2023.
- Project title: Multi-modal learning and its application in medical image analysis, System Control and Information Processing Ministry of Education Key Laboratory Open Project, **PI**, 2021-2023.
- Research on medical image segmentation algorithm under very limited labeled data based on MindSpore, Chinese Association of Artificial Intelligence Academic Reward Fund, **PI**, 2022-2024.
- Research Startup Fund, Nanjing University of Science and Technology, **PI**, 2021-2023.

Professional Services

- **Associate Editor (AE)** of: IEEE TNNLS, IEEE TMI, and Pattern Recognition.
- **Area Chair (AC)** of: MICCAI.
- **Guest Editor**: (1) Special Issue "Generative Adversarial Networks in Biomedical Image Computing" in IEEE JBHI, 2020; (2) Special Issue "Multi-view Representation Learning and Understanding" in Multimedia Tools and Applications, 2018
- **Review**: IEEE TPAMI, IEEE TIP, IEEE TMI, IEEE TNNLS, IEEE TCYB, IEEE TIE, IEEE TKDE, MedIA, PR, CVPR, ICCV, ECCV, IJCAI, AAAI, NeurIPS, ICML, ICLR, MICCAI, ISBI, ACCV, etc.
- **Review Award**: IEEE TMI Distinguished Reviewer (2021); IEEE TMI Bronze Distinguished Reviewer (2022).
- **Membership**: IEEE Senior Member, CAAI/CCF/CSIG Member.

Journal Papers

[1] Ziru Lu, Zhang Yizhe, Yi Zhou, Ye Wu, and **Tao Zhou***. Domain-interactive contrastive learning and prototype-guided self-training for cross-domain polyp segmentation. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2024.

[2] **Tao Zhou**, Yi Zhou, Guangyu Li, Geng Chen, and Jianbing Shen. Uncertainty-aware hierarchical aggregation network for medical image segmentation. *IEEE Transactions on Circuits and Systems for Video Technology (**IEEE TCSVT**)*, 2024.

[3] Yue Ding, **Tao Zhou***, Lei Xiang, and Ye Wu. Cross-contrast mutual fusion network for joint MRI reconstruction and super-resolution. *Pattern Recognition (**PR**)*, 2024.

[4] Mingyu Li, **Tao Zhou***, Bo Han, Tongliang Liu, Xinkai Liang, Jiajia Zhao, and Chen Gong. Class-wise contrastive prototype learning for semi-supervised classification under intersectional class mismatch. *IEEE Transactions on Multimedia (**IEEE TMM**)*, 2024.

[5] Lei Mou, Jinghui Lin, Yifan Zhao, Yonghuai Liu, Shaodong Ma, Jiong Zhang, Wenhao Lv, **Tao Zhou**, Alejandro F Frangi, and Yitian Zhao. Costa: A multi-center multi-vendor tof-mra dataset and a novel cerebrovascular segmentation network. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2024.

[6] Ye Wu, Xiaoming Liu, Yunzhi Huang, **Tao Zhou**, and Fan Zhang. An open relaxation-diffusion MRI dataset in neurosurgical studies. *Scientific Data*, 11(1):177, 2024.

[7] Mingyu Li, **Tao Zhou***, Zhuo Huang, Jian Yang, Jie Yang, and Chen Gong. Dynamic weighted adversarial learning for semi-supervised classification under intersectional class mismatch. *ACM Transactions on Multimedia Computing, Communications and Applications (**ACM TOMM**)*, 2024.

[8] Ziming Cheng, Shidong Wang, Tong Xin, **Tao Zhou**, Haofeng Zhang, and Ling Shao. Few-shot medical image segmentation via generating multiple representative descriptors. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2024.

[9] Zhengwang Xia, **Tao Zhou**, Saqib Mamoon, and Jianfeng Lu. Inferring brain causal and temporal-lag networks for recognizing abnormal patterns of dementia. *Medical Image Analysis*, 2024.

[10] Yizhe Zhang, **Tao Zhou**, Yuhui Tao, Shuo Wang, Ye Wu, Benyuan Liu, Pengfei Gu, Qiang Chen, and Danny Z Chen. Testfit: A plug-and-play one-pass test time method for medical image segmentation. *Medical Image Analysis*, 2024.

[11] **Tao Zhou**, Yi Zhou, Kelei He, Chen Gong, Jian Yang, Huazhu Fu, and Dinggang Shen. Cross-level feature aggregation network for polyp segmentation. *Pattern Recognition (**PR**)*, 140:109555, 2023.

[12] Yonghao Li, **Tao Zhou***, Kelei He, and Dinggang Shen. Multi-scale transformer network with edge-aware pre-training for cross-modality mr image synthesis. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2023.

[13] Hengyi Yang, **Tao Zhou***, Yi Zhou, Yizhe Zhang, and Huazhu Fu. Flexible fusion network for multi-modal brain tumor segmentation. *IEEE Journal of Biomedical and Health Informatics (**JBHI**)*, 2023.

[14] **Tao Zhou**, Huazhu Fu, Chen Gong, Ling Shao, Fatih Porikli, Haibin Ling, and Jianbing Shen. Consistency and diversity induced human motion segmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence (**IEEE TPAMI**)*, 2023.

[15] Geng Chen, Jie Qin, Boulbaba Ben Amor, Weiming Zhou, Hang Dai, **Tao Zhou**, Heyuan Huang, and Ling Shao. Automatic detection of tooth-gingiva trim lines on dental surfaces. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2023.

[16] Zhengwang Xia, **Tao Zhou**, Saqib Mamoon, Amani Alfakih, and Jianfeng Lu. A structure-guided effective and temporal-lag connectivity network for revealing brain disorder mechanisms. *IEEE Journal of Biomedical and Health Informatics (**JBHI**)*, 2023.

[17] **Tao Zhou**, Yi Zhou, Chen Gong, Jian Yang, and Yu Zhang. Feature aggregation and propagation network for camouflaged object detection. *IEEE Transactions on Image Processing (**IEEE TIP**)*, 2022.

[18] Yi Zhou, Lei Huang, **Tao Zhou**, and Hanshi Sun. Combating medical noisy labels by disentangled distribution learning and consistency regularization. *Future Generation Computer Systems*, 141:567–576, 2023.

[19] Huazhu Fu, **Tao Zhou**, Shuo Li, and Alejandro F Frangi. Guest editorial generative adversarial networks in biomedical image computing. *IEEE Journal of Biomedical and Health Informatics (**JBHI**)*, 26(1):4–6, 2022.

[20] Geng Chen, Si-Jie Liu, Yu-Jia Sun, Ge-Peng Ji, Ya-Feng Wu*, and **Tao Zhou***. Camouflaged object detection via context-aware cross-level fusion. *IEEE Transactions on Circuits and Systems for Video Technology (**IEEE TCSVT**)*, 2022.

[21] Geng Chen, Huazhu Fu, **Tao Zhou**, Guobao Xiao, Keren Fu, Yong Xia, and Yanning Zhang. Camouflaged object detection via context-aware cross-level fusion. *IEEE Transactions on Multimedia (**IEEE TMM**)*, 2022.

[22] Lei Zhou, Shuai Wang, Kun Sun, **Tao Zhou**, Fuhua Yan, and Dinggang Shen. Three-dimensional affinity learning based multi-branch ensemble network for breast tumor segmentation in mri. *Pattern Recognition (**PR**)*, 2022.

[23] Xiangmin Han, Xiaoyan Fei, Jun Wang, **Tao Zhou**, Shihui Ying, Jun Shi, and Dinggang Shen. Doubly supervised transfer classifier for computer-aided diagnosis with imbalanced modalities. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2022.

[24] Geng Chen, Hang Dai, **Tao Zhou**, Jianbing Shen Shen, and Ling Shao. Automatic schelling points detection from meshes. *IEEE Transactions on Visualization and Computer Graphics (**IEEE TVCG**)*, 2021.

[25] Yunyun Yang, Tingyu Yan, Xin Jiang, Ruicheng Xie, Chun Li, and **Tao Zhou**. MH-Net: Model-data-driven hybrid-fusion network for medical image segmentation. *Knowledge-Based Systems*, 2022.

[26] Xun Feng, Jian Yang, **Tao Zhou**, and Chen Gong. Attention mechanism and categorical hierarchy based weakly supervised object localization. *Journal of Software*, 2022.

[27] Keren Fu, Yao Jiang, Ge-Peng Ji, **Tao Zhou***, Qijun Zhao, and Deng-Ping Fan. Light field salient object detection: A review and benchmark. *Computational Visual Media*, pages 1–26, 2022.

[28] Jialun Pei, **Tao Zhou**, He Tang, Chao Liu, and Chuanbo Chen. Fgo-net: Feature and gaussian optimization network for visual saliency prediction. *Applied Intelligence*, pages 1–16, 2022.

[29] Shengwei Zhong, **Tao Zhou***, Sheng Wan, Jian Yang, and Chen Gong*. Dynamic spectral-spatial poisson learning for hyperspectral image classification with extremely scarce labels. *IEEE Transactions on Geoscience and Remote Sensing (**IEEE TGRS**)*, 2021.

[30] Zhengwang Xia, **Tao Zhou**, Saqib Mamoon, and Jianfeng Lu. Recognition of dementia biomarkers with deep finer-dbn. *IEEE Transactions on Neural Systems and Rehabilitation Engineering (**TNSRE**)*, 2021.

[31] Feiyi Fang, Yaozhou Yao, **Tao Zhou**, Guoshen Xie, and Jianfeng Lu. Self-supervised multi-modal hybrid fusion network for brain tumor segmentation. *IEEE Journal of Biomedical and Health Informatics (**JBHI**)*, 2021.

[32] Lin Li, Bo Dong, Eric Rigall, **Tao Zhou**, Junyu Dong, and Geng Chen. Marine animal segmentation. *IEEE Transactions on Circuits and Systems for Video Technology (**IEEE TCSVT**)*, 2021.

[33] **Tao Zhou**, Huazhu Fu, Jianbing Shen, Geng Chen, and Ling Shao. Hi-Net: Hybrid-fusion network for multi-modal MR image synthesis. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2020.

[34] **Tao Zhou**, Deng-Ping Fan, Ming-Ming Cheng, Jianbing Shen, and Ling Shao. RGB-D salient object detection: A survey. *Computational Visual Media*, 2020.

[35] **Tao Zhou**, Kim-Han Thung, Mingxia Liu, Feng Shi, Changqing Zhang, and Dinggang Shen. Multi-modal latent space inducing ensemble SVM classifier for early dementia diagnosis with neuroimaging data. *Medical Image Analysis (**MedIA**)*, 2019.

[36] **Tao Zhou**, Changqing Zhang, Xi Peng, Harish Bhaskar, and Jie Yang. Dual shared-specific multiview subspace clustering. *IEEE Transactions on Cybernetics (**TCYB**)*, 2019.

[37] **Tao Zhou**, Mingxia Liu, Kim-Han Thung, and Dinggang Shen. Latent representation learning for Alzheimer's disease diagnosis with incomplete multi-modality

neuroimaging and genetic data. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2019.

[38] **Tao Zhou**, Kim-Han Thung, Xiaofeng Zhu, and Dinggang Shen. Effective feature learning and fusion of multimodality data using stage-wise deep neural network for dementia diagnosis. *Human Brain Mapping (**HBM**)*, 40(3):1001–1016, 2019.

[39] **Tao Zhou**, Kim-Han Thung, Mingxia Liu, and Dinggang Shen. Brain-wide genome-wide association study for Alzheimer's disease via joint projection learning and sparse regression model. *IEEE Transactions on Biomedical Engineering (**TBME**)*, 66(1):165–175, 2019.

[40] **Tao Zhou**, Changqing Zhang, Chen Gong, Harish Bhaskar, and Jie Yang. Multiview latent space learning with feature redundancy minimization. *IEEE Transactions on Cybernetics (**TCYB**)*, 2018.

[41] **Tao Zhou**, Fanghui Liu, Harish Bhaskar, and Jie Yang. Robust visual tracking via online discriminative and low-rank dictionary learning. *IEEE Transactions on Cybernetics (**TCYB**)*, 48(9):2643–2655, 2018.

[42] **Tao Zhou**, Fanghui Liu, Harish Bhaskar, Jie Yang, Huanlong Zhang, and Ping Cai. Online discriminative dictionary learning for robust object tracking. *Neurocomputing (**NEUCOM**)*, 275:1801–1812, 2018.

[43] **Tao Zhou**, Harish Bhaskar, Fanghui Liu, and Jie Yang. Graph regularized and locality-constrained coding for robust visual tracking. *IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**)*, 27(10):2153–2164, 2017.

[44] **Tao Zhou**, Harish Bhaskar, Fanghui Liu, Jie Yang, and Ping Cai. Online learning and joint optimization of combined spatial-temporal models for robust visual tracking. *Neurocomputing (**NEUCOM**)*, 226:221–237, 2017.

[45] **Tao Zhou**, Xiangjian He, Kai Xie, Keren Fu, Junhao Zhang, and Jie Yang. Robust visual tracking via efficient manifold ranking with low-dimensional compressive features. *Pattern Recognition (**PR**)*, 48(8):2459–2473, 2015.

[46] **Tao Zhou**, Jie Yang, Artur Loza, Harish Bhaskar, and Mohammed Al-Mualla. Crowd modeling framework using fast head detection and shape-aware matching. *Journal of Electronic Imaging*, 24(2):023019, 2015.

[47] **Tao Zhou**, Kai Xie, Junhao Zhang, Jie Yang, and Xiangjian He. Robust object tracking based on weighted subspace reconstruction error with forward: backward tracking criterion. *Journal of Electronic Imaging*, 24(3):033005, 2015.

[48] **Tao Zhou**, Xiao-Jun Wu, Tao Wu, and Zhen-Hua Feng. An improved aam method for extracting human facial features. *Journal of Applied Mathematics*, 2012.

[49] Zhou Huang, Huai-Xin Chen, **Tao Zhou**, Yun-Zhi Yang, and Chang-Yin Wang. Multi-level cross-modal interaction network for RGB-D salient object detection. *Neurocomputing*, 2020.

[50] Yu Zhang, **Zhou, Tao**, Wei Wu, Hua Xie, Hongru Zhu, Guoxu Zhou, and Andrzej Cichocki. Improving eeg decoding via clustering-based multi-task feature learning. *IEEE Transactions on Neural Networks and Learning Systems (**IEEE TNNLS**)*, 2021.

[51] Yi Zhou, Tianfei Zhou, **Zhou, Tao**, H Fu, J Liu, and L Shao. Contrast-attentive thoracic disease recognition with dual-weighting graph reasoning. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2021.

[52] Yanbei Liu, Lianxi Fan, Changqing Zhang, **Tao Zhou**, Zhitao Xiao, Lei Geng, and Dianggang Shen. Incomplete multi-modal representation learning for alzheimerâĂŹs disease diagnosis. *Medical Image Analysis (**MedIA**)*, 2020.

[53] Deng-Ping Fan, **Tao Zhou**, Ge-Peng Ji, Yi Zhou, Geng Chen, Huazhu Fu, Jianbing Shen, and Ling Shao. Inf-Net: Automatic COVID-19 lung infection segmentation from ct scans. *IEEE Transactions on Medical Imaging (**IEEE TMI**)*, 2020.

[54] Xiaocong Chen, Lina Yao, **Tao Zhou**, Jinming Dong, and Yu Zhang. Momentum contrastive learning for few-shot covid-19 diagnosis from chest ct images. *Pattern Recognition (**PR**)*, 2020.

[55] Yong Jiao, **Tao Zhou**, Lina Yao, Guoxu Zhou, Xingyu Wang, and Yu Zhang. Multi-view multi-scale optimization of feature representation for eeg classification improvement. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2020.

[56] Zhou Huang, Huai-Xin Chen, **Tao Zhou**, Yun-Zhi Yang, Chang-Yin Wang, and Bi-Yuan Liu. Contrast-weighted dictionary learning based saliency detection for vhr optical remote sensing images. *Pattern Recognition (**PR**)*, page 107757, 2020.

[57] Na Liu, **Tao Zhou**, Yunfeng Ji, Ziyi Zhao, and Lihong Wan. Synthesizing talking face from text and audio via autoencoder and sequence-to-sequence convolutional neural networks. *Pattern Recognition (**PR**)*, 2019.

[58] Fanghui Liu, Chen Gong, Xiaolin Huang, **Tao Zhou**, Jie Yang, and Dacheng Tao. Robust visual tracking revisited: From correlation filter to template matching. *IEEE Transactions on Image Processing (**TIP**)*, 27(6):2777–2790, 2018.

[59] Fanghui Liu, **Tao Zhou**, Chen Gong, Keren Fu, Li Bai, and Jie Yang. Inverse nonnegative local coordinate factorization for visual tracking. *IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**)*, 28(8):1752–1764, 2018.

[60] Na Liu, Lihong Wan, Yu Zhang, **Tao Zhou**, Hong Huo, and Tao Fang. Exploiting convolutional neural networks with deeply local description for remote sensing image classification. *IEEE Access*, 6:11215–11228, 2018.

[61] Fanghui Liu, Chen Gong, **Tao Zhou**, Keren Fu, Xiangjian He, and Jie Yang. Visual tracking via nonnegative multiple coding. *IEEE Transactions on Multimedia (**TMM**)*, 19(12):2680–2691, 2017.

[62] Fanghui Liu, **Tao Zhou**, Keren Fu, and Jie Yang. Kernelized temporal locality learning for real-time visual tracking. *Pattern Recognition Letters (**PRL**)*, 90:72–79, 2017.

[63] Fanghui Liu, **Tao Zhou**, and Jie Yang. Geometric affine transformation estimation via correlation filter for visual tracking. *Neurocomputing (**NEUCOM**)*, 214:109–120, 2016.

[64] Fanghui Liu, **Tao Zhou**, Keren Fu, and Jie Yang. Robust visual tracking via constrained correlation filter coding. *Pattern Recognition Letters (**PRL**)*, 84:163–169, 2016.

[65] Kai Xie, **Tao Zhou**, Yu Qiao, Chengjie Ge, and Jie Yang. Learning to detect small target: a local kernel method. *Infrared physics & technology*, 69:7–12, 2015.

[66] Kai Xie, Keren Fu, **Tao Zhou**, Junhao Zhang, Jie Yang, and Qiang Wu. Small target detection based on accumulated center-surround difference measure. *Infrared physics & technology*, 67:229–236, 2014.

Conference Papers

[67] Yiming Zhao, Zhou Yi, Yizhe Zhang, Ye Wu, and **Tao Zhou***. Textpolyp: Point-supervised polyp segmentation with text cues. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2024.

[68] Zhengwang Xia, Huan Wang, **Tao Zhou**, Zhuqing Jaio, and Jianfeng Lu. Customized relationship graph neural network for brain disorder identification. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2024.

[69] Ruiqi Wu, Chenran Zhang, Jianle Zhang, Yi Zhou, **Tao Zhou**, and Huazhu Fu. Mm-retinal: Knowledge-enhanced foundational pretraining with fundus image-text expertise. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2024.

[70] Yuxin Xie, **Tao Zhou**, Yi Zhou, and Geng Chen. Simtxtseg: Weakly-supervised medical image segmentation with simple text cues. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2024.

[71] Yuxiang Lai, Xinghong Liu, **Tao Zhou**, and Yi Zhou. Memory-assisted sub-prototype mining for universal domain adaptations. In *(**ICLR**)*, 2023.

[72] Yue Ding, **Tao Zhou***, and Ye Wu. Cross-contrast fusion and aggregation network for multi-contrast mri super-resolution. In *Proceedings of the 2023 9th International Conference on Computing and Artificial Intelligence*, pages 102–107, 2023.

[73] Yongliang Ding, **Tao Zhou***, Chuang Zhang, Yijing Luo, Juan Tang, and Chen* Gong. Multi-class label noise learning via loss decomposition and centroid estimation. In *Proceedings of the 2022 SIAM International Conference on Data Mining (**SDM**)*, pages 253–261, 2022.

[74] Jingyi Liu, Li Huiqi, Lin Li, **Tao Zhou***, and Chenglizhao Chen. CFA-Net: Cross-level feature fusion and aggregation network for salient object detection. In *Chinese Conference on Pattern Recognition and Computer Vision (**PRCV**)*, 2022.

[75] Yi Zhou, Shaochen Bai, **Tao Zhou**, Yu Zhang, and Huazhu Fu. Delving into local features for open-set domain adaptation in fundus image analysis. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI***, pages 584–593, 2022.

[76] **Tao Zhou**, Huazhu Fu, Geng Chen, Yi Zhou, Deng-Ping Fan, and Ling Shao. Specificity-preserving RGB-D saliency detection. In *International Conference on Computer Vision (ICCV)*, 2021.

[77] Yujia Sun, Geng Chen, **Tao Zhou**, Yi Zhang, and Nian Liu. Context-aware cross-level fusion network for camouflaged object detection. *International Joint Conference on Artificial Intelligence (**IJCAI**)*, 2021.

[78] Yi Zhou, Lei Huang, **Tao Zhou**, Huazhu Fu, and Ling Shao. Visual-textual attentive semantic consistency for medical report generation. In *International Conference on Computer Vision (ICCV)*, 2021.

[79] Yi Zhou, Lei Huang, **Tao Zhou**, and Ling Shao. Cct-net: Category-invariant cross-domain transfer for medical single-to-multiple disease diagnosis. In *International Conference on Computer Vision (ICCV)*, 2021.

[80] Xukun Zhang, Zhiming Cui, Changan Chen, Jie Wei, Jingjiao Lou, Wenxin Hu, He Zhang, **Tao Zhou**, Feng Shi, and Dinggang Shen. Confidence-aware cascaded network for fetal brain segmentation on mr images. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI***, pages 584–593. Springer, 2021.

[81] **Tao Zhou**, Huazhu Fu, Chen Gong, Jianbing Shen, Ling Shao, and Fatih Porikli. Multi-mutual consistency induced transfer subspace learning for human motion segmentation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2020.

[82] **Tao Zhou**, Huazhu Fu, Yu Zhang, Changqing Zhang, Xiankai Lu, Jianbing Shen, and Ling Shao. M2Net: Multi-modal multi-channel network for overall survival time prediction of brain tumor patients. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2020.

[83] **Tao Zhou**, Kim-Han Thung, Yu Zhang, Huazhu Fu, Jianbing Shen, Ling Shao, and Dinggang Shen. Inter-modality dependence induced data recovery for MCI conversion prediction. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2019.

[84] **Tao Zhou**, Mingxia Liu, Huazhu Fu, Jun Wang, Jianbing Shen, Ling Shao, and Dinggang Shen. Deep multi-modal latent representation learning for automated dementia diagnosis. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2019.

[85] **Tao Zhou**, Kim-Han Thung, Mingxia Liu, Feng Shi, Changqing Zhang, and Dinggang Shen. Multi-modal neuroimaging data fusion via latent space learning for Alzheimer's disease diagnosis. In *International Workshop on PRedictive Intelligence In MEdicine*, pages 76–84. Springer, 2018.

[86] **Tao Zhou**, Kim-Han Thung, Xiaofeng Zhu, and Dinggang Shen. Feature learning and fusion of multimodality neuroimaging and genetic data for multi-status dementia diagnosis. In *International Workshop on Machine Learning in Medical Imaging*, pages 132–140. Springer, 2017.

[87] **Tao Zhou**, Fanghui Liu, Harish Bhaskar, Jie Yang, Lei Chen, and Ping Cai. Visual tracking via structural patch-based dictionary pair learning. In *International Conference on Image Processing (**ICIP**)*, pages 1137–1141. IEEE, 2017.

[88] **Tao Zhou**, Harish Bhaskar, Kai Xie, Jie Yang, Xiangjian He, and Pengfei Shi. Online learning of multi-feature weights for robust object tracking. In *International Conference on Image Processing (**ICIP**)*, pages 725–729. IEEE, 2015.

[89] **Tao Zhou**, Xiangjian He, Kai Xie, Keren Fu, Junhao Zhang, and Jie Yang. Visual tracking via graph-based efficient manifold ranking with low-dimensional compressive features. In *International Conference on Multimedia and Expo (**ICME**)*, pages 1–6. IEEE, 2014.

[90] **Tao Zhou**, Junhao Zhang, Kai Xie, Jie Yang, and Xiangjian He. Visual tracking based on weighted subspace reconstruction error. In *2014 IEEE International Conference on Image Processing (**ICIP**)*, pages 461–465. IEEE, 2014.

[91] Deng-Ping Fan, Ge-Peng Ji, **Tao Zhou**, Geng Chen, Huazhu Fu, Jianbing Shen, and Ling Shao. PraNet: Parallel reverse attention network for polyp segmentation. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2020.

[92] Jun Wang, Ying Zhang, **Tao Zhou**, Zhaohong Deng, Huifang Huang, and Shitong Wang. Interpretable feature learning using multi-output takagi-sugeno-kang fuzzy system for multi-center asd diagnosis. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, 2019.

[93] Changqing Zhang, Ehsan Adeli, **Tao Zhou**, Xiaobo Chen, and Dinggang Shen. Multi-layer multi-view classification for Alzheimer's disease diagnosis. In *Thirty-Second AAAI Conference on Artificial Intelligence (**AAAI**)*, 2018.

[94] Yongsheng Pan, Mingxia Liu, Chunfeng Lian, **Tao Zhou**, Yong Xia, and Dinggang Shen. Synthesizing missing PET from MRI with cycle-consistent generative adversarial networks for Alzheimer's disease diagnosis. In *International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**)*, pages 455–463. Springer, 2018.

[95] Fanghui Liu, **Tao Zhou**, Keren Fu, Irene YH Gu, and Jie Yang. Robust visual tracking via inverse nonnegative matrix factorization. In *International conference on acoustics, speech and signal processing (**ICASSP**)*, pages 1491–1495. IEEE, 2016.

[96] Fanghui Liu, Mingna Liu, **Tao Zhou**, Yu Qiao, and Jie Yang. Incremental robust nonnegative matrix factorization for object tracking. In *International Conference on Neural Information Processing (**ICONIP**)*, pages 611–619. Springer, 2016.

[97] Kunqi Gu, **Tao Zhou**, Fanghui Liu, Jie Yang, and Yu Qiao. Correlation filter tracking via bootstrap learning. In *International Conference on Image Processing (**ICIP**)*, pages 459–463. IEEE, 2016.

[98] Kunqi Gu, Mingna Liu, **Tao Zhou**, Fanghui Liu, Xiangjian He, Jie Yang, and Yu Qiao. Patch-based object tracking via locality-constrained linear coding. In *The 35th Chinese Control Conference (**CCC**)*, pages 7015–7020. IEEE, 2016.

[99] Fanghui Liu, **Tao Zhou**, Jie Yang, and Irene YH Gu. Visual tracking via nonnegative regularization multiple locality coding. In *Proceedings of the IEEE International Conference on Computer Vision Workshops (**ICCVW**)*, pages 72–80, 2015.

[100] Kai Xie, Keren Fu, **Tao Zhou**, Jie Yang, Qiang Wu, and Xiangjian He. Small target detection using an optimization-based filter. In *International Conference on Acoustics, Speech and Signal Processing (**ICASSP**)*, pages 1583–1587. IEEE, 2015.

Challenges

The IIAI-Med team (Deng-ping Fan, Ge-peng Ji, Tao Zhou, Geng Chen, Huazhu Fu, Ling Shao) wins the best precision scores (90.1%) and ranks 7-th in the final competition at Medico Automatic Polyp Segmentation Challenge 2020.