SUNCHENG XIANG

Assistant Professor
School of Biomedical Engineering
(co-affiliated with) Institute of Medical Robotics
Shanghai Jiao Tong University (SJTU)
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Research Interests

Machine Learning and Computer Vision
Domain Adaptation, Image Generation
Medical Image Analysis, Robotic Surgery, 3D Reconstruction
Image Retrieval, Multimodal Foundation Models„ Representation Learning

Position

Shanghai Jiao Tong University, Shanghai, China
Assistant Professor — Aug 2022 - Present
School of Biomedical Engineering

Education

Shanghai Jiao Tong University, Shanghai, China — 2017 - 2022
Ph.D in Computer Science and Technology

National University of Defense Technology, Changsha, China — 2014 - 2017
M.S in Software Engineering

Changsha University of Science & Technology, Changsha, China — 2010 - 2014
B.S in Electrical Engineering and Automation

Preprints

[1]. Deep Multimodal Collaborative Learning for Polyp Re-Identification
arXiv preprint arXiv:2408.05914, 2024.
Suncheng Xiang, Jincheng Li, Zhengjie Zhang, Shilun Cai, Jiale Guan, Dahong Qian

[2]. VM-UNet: Vision Mamba UNet for Medical Image Segmentation
arXiv preprint arXiv:2402.02491, 2024.
Jiacheng Ruan, **Suncheng Xiang**✉

[3]. Supervised Contrastive Learning for Fine-grained Chromosome Recognition
arXiv preprint arXiv:2308.00929, 2023.
Ruijia Chang, **Suncheng Xiang**, Chengyu Zhou, Kui Su, Dahong Qian, Jun Wang

[4]. Towards Open-set Gesture Recognition via Feature Activation Enhancement and Orthogonal Prototype Learning
arXiv preprint arXiv:2308.00929, 2023.

Chen Liu, Can Han, Chengfeng Zhou, Crystal Cai, **Suncheng Xiang**, Hualiang Ni, Dahong Qian

[5]. Towards Discriminative Representation with Meta-learning for Colonoscopic Polyp Re-Identification
arXiv preprint arXiv:2308.00929, 2023.
Suncheng Xiang✉, Qingzhong Chen, Shilun Cai, Chengfeng Zhou, Crystal Cai, Sijia Du, Zhengjie Zhang, Yunshi Zhong, Dahong Qian

[6]. Learning Robust Visual-Semantic Embedding for Generalizable Person Re-identification
arXiv preprint arXiv:2304.09498, 2023.
Suncheng Xiang, Jingsheng Gao, Mengyuan Guan, Jiacheng Ruan, Chengfeng Zhou, Ting Liu, Dahong Qian, Yuzhuo Fu

[7]. Attribute Analysis with Synthetic Dataset for Person Re-Identification
arXiv preprint arXiv:2006.07139, 2020.
Suncheng Xiang, Yuzhuo Fu, Guanjie You, Ting Liu

Journal Publications

[8]. Learning Multi-axis Representation in Frequency Domain for Medical Image Segmentation
Machine Learning (**ML**), 2024. (**IF=7.5**)
Jiacheng Ruan, Jingsheng Gao, Mingye Xie, **Suncheng Xiang**✉

[9]. Deep Learning–Based Facial and Skeletal Transformations for Surgical Planning
Journal of Dental Research (**JDR**), 2024. (**IF=7.6**)
Jiahao Bao, Xiangning Zhang, **Suncheng Xiang**, et al.

[10]. SubFace: Learning with Softmax Approximation for Face Recognition
Multimedia Tools and Applications (**MTA**), 2024. (**IF=3.6**)
Suncheng Xiang✉, Hongwei Xu, Dahong Qian

[11]. Toward an End-to-End Implicit Addressee Modeling for Dialogue Disentanglement
Multimedia Tools and Applications (**MTA**), 2024. (**IF=3.6**)
Jingsheng Gao, Zeyu Li, **Suncheng Xiang**, Zhuowei Wang, Ting Liu, Yuzhuo Fu

[12]. A Simple Normalization Technique Uing Window Statistics to Improve the Out-Of-Distribution Generalization on Medical Images
IEEE Transactions on Medical Imaging (**IEEE TMI**), 2024. (**IF=10.6**)
Chengfeng Zhou, Jun Wang, **Suncheng Xiang**, Feng Liu, Hefeng Huang, Dahong Qian

[13]. Rethinking Person Re-Identification via Semantic-Based Pretraining
ACM Transactions on Multimedia Computing, Communications and Applications (**ACM TOMM**), 2023. (**IF=5.1**)
Suncheng Xiang, Dahong Qian, Jingsheng Gao, Zirui Zhang, Ting Liu, Yuzhuo Fu

[14]. Editing Outdoor Scenes with A Large Annotated Synthetic Dataset
Multimedia Tools and Applications (**MTA**), 2023. (**IF=3.6**)
Mingye Xie, Zongwei Liu, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[15]. Deep Multimodal Representation Learning for Generalizable Person Re-identification
Machine Learning (**ML**), 2023. (**IF=7.5**)
Suncheng Xiang, Hao Chen, Wei Ran, Zefang Yu, Ting Liu, Dahong Qian, Yuzhuo Fu

[16]. Deep Learning-based PET/MR Radiomics for the Classification of Annualized Relapse Rate in Multiple Sclerosis
Multiple Sclerosis and Related Disorders (**MULT SCLER RELAT DIS**), 2023. (**IF=4.808**)
Sijia Du, et al., **Suncheng Xiang**, Dahong Qian, Biao Li, Sheng Chen, Min Zhang

[17]. Less is More: Learning from Synthetic Data with Fine-grained Attributes for Person Re-Identification
ACM Transactions on Multimedia Computing, Communications and Applications (**ACM TOMM**), 2023. (**IF=5.1**)
Suncheng Xiang, Dahong Qian, Mengyuan Guan, Binjie Yan, Ting Liu, Yuzhuo Fu, Guanjie You

[18]. Learning from Self-Discrepancy via Multiple Co-teaching for Cross-Domain Person Re-Identification
Machine Learning (**ML**), 2022. (**Invited Paper, IF=7.5**)
Suncheng Xiang, Yuzhuo Fu, Mengyuan Guan, Ting Liu

[19]. Multi-level Feature Learning with Attention for Person Re-Identification
Multimedia Tools and Applications (**MTA**), 2020. (**IF=3.6**)
Suncheng Xiang, Yuzhuo Fu, Hao Chen, Wei Ran, Ting Liu

[20]. Progressive Learning with Style Transfer for Distant Domain Adaptation
IET Image Processing (**IET-IPR**), 2020. (**IF=2.373**)
Suncheng Xiang, Yuzhuo Fu, Ting Liu

[21]. Unsupervised Person Re-Identification by Hierarchical Cluster and Domain Transfer
Multimedia Tools and Applications (**MTA**), 2020. (**IF=3.6**)
Suncheng Xiang, Yuzhuo Fu, Mingye Xie, Zefang Yu, Ting Liu

Conference Publications

[22]. GIST: Improving Parameter Efficient Fine-Tuning via Knowledge Interaction
ACM International Conference on Multimedia (**ACM MM**), 2024. (**Accept rate~26.2%**)
Jiacheng Ruan, Jingsheng Gao, Mingye Xie, **Suncheng Xiang**, Zefang Yu, Ting Liu, Yuzhuo Fu, Xiaoye Qu

[23]. Oceanship: A Large-Scale Dataset for Underwater Audio Target Recognition
International Conference On Intelligent Computing (**ICIC**), 2024. (**Oral**)
Zeyu Li, **Suncheng Xiang**, Tong Yu, Jingsheng Gao, Jiacheng Ruan, Yanping Hu, Ting Liu, Yuzhuo Fu

[24]. iDAT: inverse Distillation Adapter-Tuning
IEEE International Conference on Multimedia and Expo (**ICME**), 2024. (**Oral**)
Jiacheng Ruan, Jingsheng Gao, Mingye Xie, Daize Dong, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[25]. Enhancing Nasopharyngeal Carcinoma Classification Based on Multi-View Cross-Modal Knowledge Distillation
IEEE International Symposium on Biomedical Imaging (**ISBI**), 2024.
Zhengjie Zhang, Crystal Cai, Sijia Du, **Suncheng Xiang**, Dahong Qian

[26]. VT-ReID: Learning Discriminative Visual-Text Representation for Polyp Re-Identification
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2024. (**Accept rate~45%**, **Oral**)
Suncheng Xiang✉, Cang Liu, Jiacheng Ruan, Shilun Cai, Sijia Du, Dahong Qian

[27]. LAMM: Label Alignment for Multi-Modal Prompt Learning
Thirty-Eighth AAAI Conference on Artificial Intelligence (**AAAI**), 2024. (**Accept rate~23.75%**)
Jingsheng Gao, Jiacheng Ruan, **Suncheng Xiang**, Zefang Yu, Ke Ji, Mingye Xie, Ting Liu, Yuzhuo Fu

[28]. SAE-NTM: Sentence-Aware Encoder for Neural Topic Modeling
4th Workshop on Computational Approaches to Discourse (**CODI**), 2023.
Hao Liu, Jingsheng Gao, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[29]. CluCDD: Contrastive Dialogue Disentanglement via Clustering
IEEE International Conference on Acoustics, Speech and Signal Processing Satellite Workshop (**IWCIM**), 2023.
Jingsheng Gao, Zeyu Li, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[30]. Colo-SCRL: Self-Supervised Contrastive Representation Learning for Colonoscopic Video Retrieval
IEEE International Conference on Multimedia and Expo (**ICME**), 2023. (**Oral**)
Qingzhong Chen, Shilun Cai, Crystal Cai, Zefang Yu, Dahong Qian✉, **Suncheng Xiang**✉

[31]. AutoKary2022: A Large-Scale Densely Annotated Dateset for Chromosome Instance Segmentation
IEEE International Conference on Multimedia and Expo (**ICME**), 2023.
Dan You, Pengcheng Xia, Qiuzhu Chen, Minghui Wu, **Suncheng Xiang**✉, Jun Wang✉

[32]. AV-TAD: Audio-Visual Temporal Action Detection with Transformer
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2023. (**Accept rate~40+%**, **Oral**)
Yangcheng Li, Zefang Yu, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[33]. MTDL-Net: Morphological and Temporal Discriminative Learning for Heartbeat Classification
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2023. (**Accept rate~40+%**)
Can Han, **Suncheng Xiang**✉, Dahong Qian✉

[34]. CC-PoseNet: Towards Human Pose Estimation in Crowded Classrooms
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2023. (**Accept rate~40+%**, **Oral**)
Zefang Yu, Yanping Hu, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[35]. MALUNet: A Muti-Attention and Light-weight UNet for Skin Lesion Segmentation
International Conference on Bioinformatics and Biomedicine (**BIBM**), 2022. (**Accept rate~19.8%**)
Jiacheng Ruan, **Suncheng Xiang**✉, Mingye Xie, Ting Liu, Yuzhuo Fu✉

[36]. CDTnet: Cross-Domain Transformer based on Attributes for Person Re-Identification
IEEE International Conference on Multimedia and Expo Workshops (**ICMEW**), 2022.
Mengyuan Guan, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[37]. Rethinking Illumination for Person Re-Identification: A Unified View
IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (**CVPRW**), 2022.
Suncheng Xiang, Guanjie You, Leqi Li, Mengyuan Guan, Ting Liu, Dahong Qian, Yuzhuo Fu

[38]. Spatial Attention Guided Local Facial Attribute Editing
IEEE International Conference on Multimedia and Expo (**ICME**), 2022. (**Accept rate~29%**)
Mingye Xie, **Suncheng Xiang**, Feng Wang, Ting Liu, Yuzhuo Fu

[39]. Zero-Shot Learning for Skeleton-based Classroom Action Recognition
International Symposium on Computer Science and Intelligent Controls (**ISCSIC**), 2021.
Bin Shi, Luyang Wang, Zefang Yu, **Suncheng Xiang**, Yuzhuo Fu, Ting Liu

[40]. Learning from Self-Discrepancy via Multiple Co-teaching for Cross-Domain Person Re-Identification
International Joint Conference on Artificial Intelligence WSRL Workshop (**IJCAIW**), 2021.
Suncheng Xiang, Yuzhuo Fu, Mengyuan Guan, Ting Liu

[41]. Attention based Facial Expression Manipulation
IEEE International Conference on Multimedia and Expo Workshops (**ICMEW**), 2021.
Feng Wang, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

[42]. Taking a Closer Look at Synthesis: Fine-grained Attribute Analysis for Person Re-Identification
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2021. (**Accept rate~48%**)
Suncheng Xiang, Yuzhuo Fu, Guanjie You, Ting Liu

[43]. Unsupervised Domain Adaptation Through Synthesis for Person Re-Identification
IEEE International Conference on Multimedia and Expo (**ICME**), 2020. (**Accept rate~29%**)
Suncheng Xiang, Yuzhuo Fu, Guanjie You, Ting Liu

[44]. Deep Unsupervised Progressive Learning for Distant Domain Adaptation
IEEE International Conference on Tools with Artificial Intelligence (**ICTAI**), 2019. (**Accept rate~28%**, **Oral**)
Suncheng Xiang, Yuzhuo Fu, Ting Liu

[45]. Enhancing Model Performance of Person Re-Indentification on Unknown Target Domain
International Conference on Software Engineering and Service Science (**ICSESS**), 2018.
Rongsen Xu, Yuzhuo Fu, Ting Liu, **Suncheng Xiang**

[46]. Circuit design and optimization based on EXT, EXTU instruction
International Conference on Design, Manufacturing and Mechatronics (**ICDMM**), 2016.
Suncheng Xiang, Minxuan Zhang, Zuocheng Xing, Cang Liu

[47]. QRD Architecture Using the Modified ILMGS Algorithm for MIMO Systems
International Wireless Internet Conference (**WICON**), 2016.
Cang Liu, Chuan Tang, Zuocheng Xing, Luechao Yuan, Yu Wang, Lirui Chen, Yang Zhang, **Suncheng Xiang**, Wangfeng Zhao, Xing Hu, Jinsong Xu

[48]. Hardware design of ML algorithm in MIMO-OFDM system
International Conference on Systems and Informatics (**ICSAI**), 2016.
Suncheng Xiang, Minxuan Zhang, Zuocheng Xing, Cang Liu

Patents

[49]. A Method, Equipment and Storage Medium for Re-Identification of Inland Water Vessels Based on Transfer Learning
National Invention Patent. Patent No: CN202010053647.6
Yuzhuo Fu, Ting Liu, **Suncheng Xiang**

Awards

- Meng Minwei International Exchange Fund, SJTU, 2024
- Outstanding Doctoral Graduate, SJTU, 2022
- Leo KoGuan Scholarship, SJTU, 2019 - 2020
- Merit Student, SJTU, 2018-2019
- First-class Academic Scholarship, NUDT, 2016-2017
- Outstanding Student, NUDT, 2015-2016
- Outstanding Student, NUDT, 2014-2015
- Third-class Academic Scholarship, Outstanding League Cadres, CSUST, 2012-2013
- First-class Academic Scholarship, Merit Student, Model Student of Academic Records, CSUST, 2011-2012
- Third-class Academic Scholarship, Excellent League Member, CSUST, 2010-2011

Projects

- Scientific Research Project of Shanghai Municipal Health Commission, 2023 - 2026
- Youth Project of National Natural Science Foundation of China, 2024 - 2026

- Startup Fund for Young Faculty at SJTU, 2023 - 2025

Professional Activities

Journal Review

- IEEE Transactions on Image Processing
- IEEE Transactions on Medical Imaging
- IEEE Transactions on Intelligent Vehicles
- IEEE Transactions on Multimedia
- IEEE Transactions on Information Forensics and Security
- CAAI Transactions on Intelligence Technology
- IEEE Journal of Biomedical and Health Informatics
- Pattern Recognition
- Machine Learning
- Information Fusion
- Defense Technology
- IET Image Processing
- International Journal of Intelligent Systems
- Signal Processing: Image Communication
- Expert Systems with Applications
- Pattern Recognition Letters
- Computer Vision and Image Understanding
- Neurocomputing
- JMIR Medical Informatics
- Franklin Open
- Machine Vision and Applications
- Multimedia Systems
- Pattern Analysis and Applications
- Knowledge-Based Systems

- Multimedia Tools and Applications
- IEEE Access
- Biomedical Signal Processing and Control
- Applied Intelligence
- Journal of Imaging
- Data in Brief
- Journal of Electronic Imaging
- Journal of Supercomputing
- IEEE Open Journal of Signal Processing
- Computers, Materials and Continua
- Mathematical Biosciences and Engineering

Journal Editorial

- Associate Editor, Biomedical Engineering Communications, since 2024.
- Associate Editor, Electronics and Signal Processing, since 2024.
- Associate Editor, Open Access Journal of Data Science and Artificial Intelligence, since 2023.
- Associate Editor, International Journal of Architectural Engineering Technology, since 2023.

Conference Review

- CVPR 2024
- MICCAI 2024
- ISBI 2024-2025
- ACM MM 2023-2024
- ICME 2023
- ICASSP 2023-2025
- CECNet 2022
- IWACCE 2022

Program Committee

- Session Chair of ICASSP 2024

- CTMDT
- EACL 2024
- Workshop Chair of CVDL 2024
- ACL 2023
- Session Chair of ICME 2022 (Recognition and Retrieval)
- EMNLP 2022-2023
- ML4CS 2022
- Session Chair of ICTAI 2019

Professional Membership

- Member, IEEE, (2022-)
- Member, ACM, (2023-)
- Student Member, CCF (2018-2021)

Skills

* Programming: Python, MATLAB, C/C++
* Deep Learning: Pytorch, TensorFlow, Caffe

Teaching

- Artificial Intelligence Interaction Techniques, SJTU (Spring 2023-2024)
- Artificial Intelligence and Medicine, SJTU (Spring 2023-2024)
- Artificial Intelligence and Medicine, SJTU (Spring 2022-2023)
- BioDesign, SJTU (Fall 2022-2023)
- Digital Integrated Circuits, SJTU (Lead TA, Fall 2020-2021)
- Operating System, SJTU (Lead TA, Fall 2018-2019)
- Digital Integrated Circuits, SJTU (Lead TA, Spring 2017-2018)
- Fundamentals of College Computer, NUDT (Lead TA, Fall 2015-2016)

Invited Talks

- 2024.06: Multimodal Cognitive Learning Based on Generative Artificial Intelligence, Shanghai Theatre Academy
- 2023.11: The 6th WLA Forum, Shanghai
- 2023.08: Summer Top Science Exploration Camp for ”Future Scientists” Training Program, Shanghai
- 2023.03: T-Workshop of Science and Technology for the Common Destiny of Mankind, Shanghai
- 2022.04: Pedestrian Data Synthesis and Application Based on Deep Learning, Wuhan University
- 2022.03: Learning from Synthetic Data with Fine-grained Attributes, Fudan University
- 2021.12: Leveraging Synthetic Data for Person Re-Identification, Hunan University
- 2021.12: Learning from Synthetic Data for Person Re-Identification, Donghua University

Open Source

Codes and models for my published papers are available on my GitHub:
https://github.com/JeremyXSC/

Last updated: October 20, 2024