

# SUNCHENG XIANG

Assistant Professor

School of Biomedical Engineering  
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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]. 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**

- [7]. Learning Visual-Semantic Embedding for Generalizable Person Re-identification: A Unified Perspective  
ACM Transactions on Multimedia Computing, Communications and Applications (**ACM TOMM**), 2025. (**IF=5.1**)  
**Suncheng Xiang**✉, Jingsheng Gao, Mingye Xie, Mengyuan Guan, Jiacheng Ruan, Yuzhuo Fu
- [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 Using 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]. Bridging the Gap: Balancing Human Perception and Detector Attention in Adversarial Attacks  
IEEE International Conference on Multimedia and Expo (**ICME**), 2025.  
Mingye Xie, **Suncheng Xiang**, Xian Gao, Ting Liu, Yuzhuo Fu
- [23]. A Training-Free Correlation-Weighted Model for Zero-/Few-Shot Industrial Anomaly Detection with Retrieval Augmentation  
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2025.  
Wei Ran, Zefang Yu, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu
- [24]. GPA: Enhancing Generalizable Physical Adversarial Attacks Across Multiple Vision Tasks  
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2025.  
Mingye Xie, **Suncheng Xiang**, Jiacheng Ruan, Xian Gao, Zefang Yu, Ting Liu, Yuzhuo Fu
- [25]. TTE: Two Tokens are Enough to Improve Parameter-Efficient Tuning  
Thirty-Ninth AAAI Conference on Artificial Intelligence (**AAAI**), 2025. (**Accept rate~23.4%**)  
Jiacheng Ruan, Mingye Xie, Jingsheng Gao, Xian Gao, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu

- [26]. 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
- [27]. 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
- [28]. 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
- [29]. 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
- [30]. VT-RelD: 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**<sup>✉</sup>, Cang Liu, Jiacheng Ruan, Shilun Cai, Sijia Du, Dahong Qian
- [31]. 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
- [32]. 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
- [33]. 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
- [34]. 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<sup>✉</sup>, **Suncheng Xiang**<sup>✉</sup>
- [35]. AutoKary2022: A Large-Scale Densely Annotated Dataset for Chromosome Instance Segmentation  
IEEE International Conference on Multimedia and Expo (**ICME**), 2023.  
Dan You, Pengcheng Xia, Qiuzhu Chen, Minghui Wu, **Suncheng Xiang**<sup>✉</sup>, Jun Wang<sup>✉</sup>

- [36]. 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
- [37]. 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✉
- [38]. 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
- [39]. 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✉
- [40]. 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
- [41]. 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
- [42]. 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
- [43]. 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
- [44]. 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
- [45]. Attention based Facial Expression Manipulation  
IEEE International Conference on Multimedia and Expo Workshops (**ICMEW**), 2021.  
Feng Wang, **Suncheng Xiang**, Ting Liu, Yuzhuo Fu
- [46]. 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

- [47]. 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
- [48]. 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
- [49]. Enhancing Model Performance of Person Re-Identification on Unknown Target Domain  
International Conference on Software Engineering and Service Science (**ICSESS**), 2018.  
Rongsen Xu, Yuzhuo Fu, Ting Liu, **Suncheng Xiang**
- [50]. 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
- [51]. 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
- [52]. 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**

- [52]. 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**
- [53]. Reusable Implantable Drive Mechanism Device  
National Invention Patent. Patent No: CN202311730617.4  
Ding Han, Dahong Qian, Guozheng Yan, Shuai Kuang, **Suncheng Xiang**, et al.

## **Awards**

- Third Prize Award in Young Teachers' Teaching Competition, SJTU, 2024
- 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**

- Special Fund for “AI + Education” in SJTU, 2024 - 2025
- 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 (**Distinguished Reviewer**)
- IEEE Transactions on Intelligent Vehicles
- IEEE Transactions on Multimedia
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Transactions on Information Forensics and Security
- CAAI Transactions on Intelligence Technology
- IEEE Journal of Biomedical and Health Informatics
- Information Processing and Management
- 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
- Artificial Intelligence In Medicine
- 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
- Computer Methods and Programs in Biomedicine



- Biomedicines

### **Journal Editorial**

- Guest Editor, Advances in Differential Equations and Control Processes, since 2025.
- Associate Editor, Intelligent Manufacturing, since 2024.
- 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 2024-2025
- ICCV 2025
- ACM MM 2023-2025
- MICCAI 2024
- ISBI 2024-2025
- IJCNN 2025
- ICRA 2025
- ICME 2023-2025
- ICASSP 2023-2025
- CECNet 2022
- IWACCE 2022

### **Program Committee**

- Session Chair of ACML 2024
- Session Chair of ICASSP 2024
- CTMDT 2024-2028
- 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 and Medicine, SJTU (Spring 2024-2025)
- Medical Imaging Intelligence Technology, SJTU (Spring 2024-2025)
- 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: March 24, 2025