

FENG LIU

👤 Assistant Professor, Drexel University

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Education

Sichuan University

Ph.D., Computer Science

Sept. 2014 – Jun. 2018

Chengdu, China

Experience

Drexel University

Assistant Professor, Department of Computer Science

Sept. 2024 –

Philadelphia, PA

Michigan State University

Postdoctoral Researcher, Department of Computer Science and Engineering

Oct. 2018 – Aug. 2024

East Lansing, MI

- Mentor: Prof. Xiaoming Liu

Research Interests

- **Human-AI interaction:** 3D Object/Scene Understanding; VR/AR
- **AI + X:** Education; Healthcare
- **Generative AI:** Explainability, generalization and controllability in generative models; DeepFake detection
- **3D Human Digitization:** Modeling, reconstruction and rendering
- **Biometric Recognition:** Face and gait recognition; person re-identification

Publications

Google Scholar <https://scholar.google.com/citations?user=8Y9iUz0AAAAJ> lists my h-index as **21**, with **2,345** citations.

- *Journal Articles*

- [1]. **Learning Implicit Functions for Dense 3D Shape Correspondence of Generic Objects**

Feng Liu and Xiaoming Liu

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Vol. 46, No.3, pp.1852-1867, 2024 [PDF](#)

- [2]. **On Learning Disentangled Representations for Gait Recognition**

Ziyuan Zhang, Luan Tran, Feng Liu and Xiaoming Liu

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Vol. 44, No.1, pp.345-360, 2022 [PDF](#)

- [3]. **Shape My Face: Registering 3D Face Scans by Surface-to-Surface Translation**

Mehdi Bahri, Eimear O' Sullivan, Shunwang Gong, Feng Liu, Xiaoming Liu, Michael Bronstein, Stefanos Zafeiriou

International Journal of Computer Vision (IJCV), Vol. 129, No. 9, pp.2680-2713, 2021 [PDF](#)

- [4]. **Joint Face Alignment and 3D Face Reconstruction with Application to Face Recognition**

Feng Liu, Qijun Zhao, Xiaoming Liu and Dan Zeng

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Vol. 42, No.3, pp.664-678, 2020 [PDF](#)

- [5]. **3D Face Reconstruction from Mugshots: Application to Arbitrary View Face Recognition**
Jie Liang, Huan Tu, Feng Liu, Qijun Zhao and Anil Jain
Neurocomputing, Vol. 410, pp.12-27, 2020 [PDF](#)
- [6]. **On 3D Face Reconstruction via Cascaded Regression in Shape Space**
Feng Liu, Dan Zeng, Jing Li and Qijun Zhao
Frontiers of Information Technology and Electronic Engineering, Vol. 18, No. 12, pp.1978-1990, 2017 [PDF](#)
- *Conference Papers*
- [7]. **HAMoBE: Hierarchical and Adaptive Mixture of Biometric Experts for Video-based Person ReID**
Yiyang Su*, Yunping Shi*, Feng Liu and Xiaoming Liu
International Conference on Computer Vision (ICCV 2025)
- [8]. **AG-VPReID: A Challenging Large-Scale Benchmark for Aerial-Ground Video-based Person Re-Identification**
Huy Nguyen, Kien Nguyen, Akila Pemasiri, Feng Liu, Sridha Sridhara and Clinton Fooke
IEEE Computer Vision and Pattern Recognition (CVPR 2025) [PDF](#)
- [9]. **SapiensID: Foundation for Human Recognition**
Minchul Kim, Dingqiang Ye, Yiyang Su, Feng Liu and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2025) [PDF](#)
- [10]. **Securing the Skies: A Comprehensive Survey on Anti-UAV Methods, Benchmarking, and Future Directions**
Yifei Dong, Fengyi Wu, Sanjian Zhang, Guangyu Chen, Yuzhi Hu, Masumi Yano, Jingdong Sun, Siyu Huang, Feng Liu, Qi Dai, and Zhi-Qi Cheng
[Best Paper Award, 4th Anti-UAV Challenge Workshop @ CVPR 2025](#)
IEEE Computer Vision and Pattern Recognition Workshop (CVPRW 2025) [PDF](#)
- [11]. **Open-Set Biometrics: Beyond Good Closed-Set Models**
Yiyang Su, Minchul Kim, Feng Liu, Anil Jain and Xiaoming Liu
European Conference on Computer Vision (ECCV 2024) [PDF](#)
- [12]. **Distilling CLIP with Dual Guidance for Learning Discriminative Human Body Shape Representation**
Feng Liu, Minchul Kim, Zhiyuan Ren and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2024) [PDF](#)
- [13]. **TIGER: Time-Varying Denoising Model for 3D Point Cloud Generation with Diffusion Process**
Zhiyuan Ren, Minchul Kim, Feng Liu and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2024) [PDF](#)
- [14]. **KeyPoint Relative Position Encoding for Face Recognition**
Minchul Kim, Yiyang Su, Feng Liu, Anil Jain and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2024) [PDF](#)
- [15]. **FarSight: A Physics-Driven Whole-Body Biometric System at Large Distance and Altitude**
Feng Liu, Ryan Ashbaugh, Nicholas Chimitt, Najmul Hassan, Ali Hassani, Ajay Jaiswal, Minchul Kim, Zhiyuan Mao, Christopher Perry, Zhiyuan Ren, Yiyang Su, Pegah Varghaei, Kai Wang, Xingguang Zhang, Stanley Chan, Arun Ross, Humphrey Shi, Zhangyang Wang, Anil Jain and Xiaoming Liu
IEEE Winter Conference on Application of Computer Vision (WACV 2024), in press [arXiv](#)
- [16]. **Learning Clothing and Pose Invariant 3D Shape Representation for Long-Term Person Re-Identification**
Feng Liu, Minchul Kim, Ziang Gu, Anil Jain and Xiaoming Liu
International Conference on Computer Vision (ICCV 2023) [PDF](#)
- [17]. **DCFace: Synthetic Face Generation with Dual Condition Diffusion Model**
Minchul Kim, Feng Liu, Anil Jain and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2023) [PDF](#)

- [18]. **Cluster and Aggregate: Face Recognition with Large Probe Set**
Minchul Kim, Feng Liu, Anil Jain and Xiaoming Liu
Neural Information Processing Systems (NeurIPS 2022) [PDF](#)
- [19]. **2D GANs Meet Unsupervised Single-View 3D Reconstruction**
Feng Liu and Xiaoming Liu
European Conference on Computer Vision (ECCV 2022) [PDF](#)
- [20]. **Controllable and Guided Face Synthesis for Unconstrained Face Recognition**
Feng Liu, Minchul Kim, Anil Jain and Xiaoming Liu
European Conference on Computer Vision (ECCV 2022) [PDF](#)
- [21]. **Voxel-based 3D Detection and Reconstruction of Multiple Objects from a Single Image**
Feng Liu and Xiaoming Liu
Neural Information Processing Systems (NeurIPS 2021) [PDF](#)
- [22]. **Fully Understanding Generic Objects: Modeling, Segmentation, and Reconstruction**
Feng Liu, Luan Tran and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2021) [PDF](#)
- [23]. **Learning Implicit Functions for Topology-Varying Dense 3D Shape Correspondence**
Feng Liu and Xiaoming Liu
Neural Information Processing Systems (NeurIPS 2020), [Oral presentation, 1.1% \(105/9454\)](#) [PDF](#)
- [24]. **On the Detection of Digital Face Manipulation**
Hao Dang*, Feng Liu*, Joel Stehouwer*, Xiaoming Liu and Anil Jain
IEEE Computer Vision and Pattern Recognition (CVPR 2020) [PDF](#)
- [25]. **3D Face Modeling from Diverse Raw Scan Data**
Feng Liu, Luan Tran and Xiaoming Liu
International Conference on Computer Vision (ICCV 2019), [Oral presentation, 4.3% \(187/4303\)](#) [PDF](#)
- [26]. **Towards High-Fidelity Nonlinear 3D Face Morphable Model**
Luan Tran, Feng Liu and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2019) [PDF](#)
- [27]. **Disentangling Features in 3D Face Shapes for Joint Face Reconstruction and Recognition**
Feng Liu, Ronghang Zhu, Dan Zeng, Qijun Zhao and Xiaoming Liu
IEEE Computer Vision and Pattern Recognition (CVPR 2018) [PDF](#)
- [28]. **Joint Face Alignment and 3D Face Reconstruction**
Feng Liu, Dan Zeng, Qijun Zhao and Xiaoming Liu
European Conference on Computer Vision (ECCV 2016), [Spotlight presentation, 4.6% \(72/1561\)](#) [PDF](#)
- [29]. **Regressing 3D Face Shapes from Arbitrary Image Sets with Disentanglement in Shape Space**
Wan Tian, Feng Liu and Qijun Zhao
IEEE International Conference on Biometric (ICB 2019) [PDF](#)
- [30]. **On Mugshot-based Arbitrary View Face Recognition**
Jie Liang, Feng Liu, Huan Tu, Qijun Zhao and Anil Jain
International Conference on Pattern Recognition (ICPR 2018) [PDF](#)
- [31]. **Landmark-based 3D Face Reconstruction from an Arbitrary Number of Unconstrained Images**
Jie Liang, Wan Tian, Feng Liu and Qijun Zhao
IEEE International Conference on Automatic Face and Gesture Recognition (FG 2018) [PDF](#)

Teaching (Instructor)

CS435 Computational Photography, Drexel University	Winter 2024-2025
CS583 Introduction to Computer Vision, Drexel University	Fall 2024-2025
CSE803 Computer Vision, Michigan State University	Fall 2023-2024

Grants & Projects

- [1]. **Physics-driven Modeling and Learning for Person Recognition at a Distance and Altitude**
Senior Researcher IARPA, \$12.5M, 11/21-10/25 2021-Present
- Topic: Multi-modality fusion, Body matching, 3D human body modeling, Image synthesis
 - Led robust body matching method, joint analysis of 2D images and 3D body shapes, and human image synthesis and editing

Honors & Awards

- ACM China Doctoral Dissertation Award 2018
- The GuangHua Educational Scholarship 2016
- The 10th China Post-graduate Mathematic Contest in Modeling Third prize 2013
- The 9th China Post-graduate Mathematic Contest in Modeling Third prize 2012

Professional Activities

Membership:

- ◇ IEEE Senior Member

Guest Editor:

- ◇ Journal of Imaging

Area Chair:

- ◇ British Machine Vision Conference (BMVC) 2025
- ◇ ACM International Conference on Multimedia (ACM MM) 2025
- ◇ IEEE International Conference on Automatic Face and Gesture Recognition (IJCNN) 2025
- ◇ IEEE International Conference on Automatic Face and Gesture Recognition (FG) 2024, 2025

Competition Organizer:

- ◇ Aerial-Ground Person Re-identification Challenge IJCB 2023, 2025

Journal Reviewer:

- ◇ IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- ◇ International Journal of Computer Vision (IJCV)
- ◇ IEEE Transactions on Information Forensics and Security (TIFS)
- ◇ IEEE Transactions on Visualization and Computer Graphics (TVCG)
- ◇ IEEE Transactions on Image Processing (TIP)
- ◇ IEEE Transactions on Industrial Informatics (TII)
- ◇ ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)
- ◇ Pattern Recognition (PR)
- ◇ IEEE Transactions on Multimedia (MM)

Conference Reviewer / Program Committee Member:

- ◇ IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019-2025
- ◇ International Conference on Computer Vision (ICCV) 2019, 2021, 2023, 2025
- ◇ European Conference on Computer Vision (ECCV) 2018, 2020, 2022, 2024

◇ Neural Information Processing Systems (NeurIPS)	2022-2025
◇ International Conference on Machine Learning (ICML)	2024-2025
◇ International Conference on Learning Representations (ICLR)	2023-2025
◇ ACM Special Interest Group on Computer Graphics and Interactive Techniques (SIGGRAPH)	2021
◇ AAAI Conference on Artificial Intelligence (AAAI)	2020-2025
◇ International Joint Conferences on Artificial Intelligence (IJCAI)	2020, 2021
◇ Asian Conference on Computer Vision (ACCV)	2020
◇ Winter Conference on Applications of Computer Vision (WACV)	2020-2023
◇ IEEE International Joint Conference on Biometrics (IJCB)	2020
◇ IEEE International Conference on Automatic Face and Gesture Recognition (FG)	2019, 2021
◇ International Biometric Conferences (ICB)	2019