

Qianyu Zhou

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Homepage: <https://qianyuzqy.github.io/>

Education


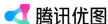

Ph.D. in Computer Science, Department of Computer Science and Engineering, Shanghai Jiao Tong University;
Sept. 2019 ~ June. 2024 Zhiyuan Honored Ph.D Fellowship (The Highest Honor) in SJTU;
Supervisor: Lizhuang Ma Member of Wenjun Wu AI Honored Ph.D Class (Top 1%), GPA: 3.95 / 4.0
B.Sc. in Computer Science, College of Computer Science and Technology, Jilin University;
Aug. 2015. ~ June. 2019 Top Ten Honorary Undergraduates (The Highest Honor) in Jilin University;
Rank in Computer Science and Technology: 1 / 336, GPA: 3.83 / 4.0

Research Interests

Computer Vision, Machine Intelligence:

1. Transfer Learning: domain adaptation, domain generalization, and semi-supervised learning;
2. Scene Understanding: semantic segmentation, object detection in images and videos;
3. Multi-Modal Learning: vision-language models, 3D point cloud understanding;
4. Biometrics Security: face anti-spoofing, presentation attack detection.

Internship

May.2023 ~ Aug. 2023 Research Intern at CATL, Ningde, Fujian Province, P.R.China.  CATL 宁德时代
Worked on surface defect detection with Dr. Jie Hu, and Dr. Guannan Jiang.
July. 2021 ~ Nov. 2022 Research Intern at YouTu Lab, Tencent, Shanghai, P.R.China  腾讯优图
Worked on face anti-spoofing with Taiping Yao and Ke-Yue Zhang.
July.2019 ~ Mar. 2021 Research Intern at SenseTime Research, Beijing & Shanghai, P.R.China  商汤
Worked on scene understanding with Dr. Guangliang Cheng, and Dr. Jianping Shi.

Publication

First Author: 15 papers published in top-tier journals and conferences;

Google Scholar: <https://scholar.google.com/citations?hl=en&pli=1&user=KHg04fkAAAAJ>

DBLP: <https://dblp.uni-trier.de/pid/232/4830-1.html>

First Author/Co-First Author (Published):

1. TransVOD: End-to-End Video Object Detection with Spatial-Temporal Transformers
Qianyu Zhou, Xiangtai Li, Lu He, Yibo Yang, Guangliang Cheng, Yunhai Tong, Lizhuang Ma, Dacheng Tao.
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2023. [CCF-A, JCR Q1, IF=23.6]
2. Self-Adversarial Disentangling for Specific Domain Adaptation
Qianyu Zhou, Qiqi Gu, Jiangmiao Pang, Xuequan Lu, Lizhuang Ma.
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2023.[CCF-A, JCR Q1, IF=23.6]
3. Test-Time Domain Generalization for Face Anti-Spoofing
Qianyu Zhou, Ke-Yue Zhang, Taiping Yao, Xuequan Lu, Ran Yi, Shouhong Ding, Lizhuang Ma
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.[CCF-A]
4. Instance-Aware Domain Generalization for Face Anti-Spoofing
Qianyu Zhou, Ke-Yue Zhang, Taiping Yao, Xuequan Lu, Ran Yi, Shouhong Ding, Lizhuang Ma
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023. [CCF-A]
5. Adaptive Mixture of Experts Learning for Generalizable Face Anti-Spoofing
Qianyu Zhou, Ke-Yue Zhang, Taiping Yao, Ran Yi, Shouhong Ding, Lizhuang Ma.
The 30th ACM International Conference on Multimedia (**ACM MM**), 2022. [CCF-A]

6. Generative Domain Adaptation for Face Anti-Spoofing
Qianyu Zhou, Ke-Yue Zhang, Taiping Yao, Ran Yi, Kekai Sheng, Shouhong Ding, Lizhuang Ma.
 European Conference on Computer Vision (ECCV), 2022. [CCF-B, Tsinghua-A]
7. Context-Aware Mixup for Domain Adaptive Semantic Segmentation
Qianyu Zhou, Zhengyang Feng, Qiqi Gu, Jiangmiao Pang, Guangliang Cheng, Xuequan Lu, Jianping Shi, Lizhuang Ma.
 IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2023. [JCR Q1, IF=8.4]
8. BA-SAM: Scalable Bias-Mode Attention Mask for Segment Anything Model
 Yiran Song*, **Qianyu Zhou*(Co-First Author)**, Xiangtai Li, Deng-Ping Fan, Xuequan Lu, Lizhuang Ma.
 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024. [CCF-A]
9. DGMamba: Domain Generalization via Generalized State Space Model
 Shaocong Long*, **Qianyu Zhou*(Co-First Author)**, Xiangtai Li, Xuequan Lu, Chenhao Ying, Lizhuang Ma, Yuan Luo, Shuicheng Yan.
 The 32nd ACM International Conference on Multimedia (ACM MM), 2024. [CCF-A]
10. Rethinking Impersonation and Dodging Attacks on Face Recognition Systems
 Fengfan Zhou*, **Qianyu Zhou*(Co-First Author)**, Bangjie Yin, Hui Zheng, Xuequan Lu, Lizhuang Ma, Hefei Ling.
 The 32nd ACM International Conference on Multimedia (ACM MM), 2024. [CCF-A]
11. PIT: Position-Invariant Transform for Cross-FoV Domain Adaptation
 Qiqi Gu*, **Qianyu Zhou*(Co-First Author)**, Minghao Xu, Zhengyang Feng, Guangliang Cheng, Xuequan Lu, Jianping Shi, Lizhuang Ma.
 IEEE/CVF International Conference on Computer Vision (ICCV), 2021. [CCF-A]
12. End-to-End Video Object Detection with Spatial-Temporal Transformers
 Lu He*, **Qianyu Zhou*(Co-First Author)**, Xiangtai Li, Li Niu, Guangliang Cheng, Xiao Li, Wenxuan Liu, Yunhai Tong, Lizhuang Ma, Liqing Zhang.
 The 29th ACM International Conference on Multimedia (ACM MM), 2021. [CCF-A]
13. Rethinking Domain Generalization: Discriminability and Generalizability
 Shaocong Long*, **Qianyu Zhou*(Co-First Author)**, Chenhao Ying, Lizhuang Ma, Yuan Luo.
 IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2023. [JCR Q1, IF=8.4]
14. DG-PIC: Domain Generalized Point-In-Context Learning for Point Cloud Understanding
 Jincen Jiang*, **Qianyu Zhou*(Co-First Author)**, Yuhang Li, Xuequan Lu, Meili Wang, Lizhuang Ma, Jian Chang, Jian Jun Zhang.
 European Conference on Computer Vision (ECCV), 2024. [CCF-B, Tsinghua-A]
15. DMT: Dynamic Mutual Training for Semi-Supervised Learning
 Zhengyang Feng*, **Qianyu Zhou*(Co-First Author)**, Qiqi Gu, Xin Tan, Guangliang Cheng, Xuequan Lu, Jianping Shi, Lizhuang Ma.
 Pattern Recognition (PR), 2022. [JCR Q1, IF=8.0] (**More than 190 citations in Google Scholar**)
16. Continuous Piecewise-Affine Based Motion Model for Image Animation
 Hexiang Wang*, Fengqi Liu*, **Qianyu Zhou*(Co-First Author)**, Ran Yi, Xin Tan, Lizhuang Ma†.
 The 38th AAAI Conference on Artificial Intelligence (AAAI), 2024. [CCF-A]
17. Uncertainty-Aware Consistency Regularization for Cross-Domain Semantic Segmentation
Qianyu Zhou, Zhengyang Feng, Qiqi Gu, Guangliang Cheng, Xuequan Lu, Jianping Shi, Lizhuang Ma.
 Computer Vision and Image Understanding (CVIU), 2022. [CCF-B, JCR Q2, IF=4.5]
18. Domain Adaptive Semantic Segmentation via Regional Contrastive Consistency Regularization
Qianyu Zhou, Chuyun Zhuang, Ran Yi, Xuequan Lu, Lizhuang Ma.
 IEEE International Conference on Multimedia and Expo (ICME), 2022. [CCF-B, Oral presentation]

Corresponding Author (Published)

19. Rethinking Implicit Neural Representations for Vision Learners
 Yiran Song, **Qianyu Zhou†**, Lizhuang Ma†.
 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023.[CCF-B]

(Top 3% Paper Recognition of all papers accepted at ICASSP 2023)

20. Label-free Regional Consistency for Image-to-Image Translation
Shaohua Guo, **Qianyu Zhou**[†], Zhou Ye, Qiqi Gu, Junshu Tang, Zhengyang Feng, Lizhuang Ma[†].
IEEE International Conference on Multimedia and Expo (**ICME**), 2021. [CCF-B]
21. Semi-Supervised 3D Object Detection Via Adaptive Pseudo-Labeling
Hongyi Xu, Fengqi Liu, **Qianyu Zhou**[†], Jinkun Hao, Zhijie Cao, Zhengyang Feng, Lizhuang Ma[†].
IEEE International Conference on Image Processing (**ICIP**), 2021. [CCF-C]

Co-First Author (Major Revision)

22. Diverse Target and Contribution Scheduling for Domain Generalization
Shaocong Long*, **Qianyu Zhou***(**Co-First Author**), Chenhao Ying, Lizhuang Ma, Yuan Luo.
IEEE Transactions on Image Processing (**TIP**), 2023 [CCF-A, JCR Q1, IF=10.6]

Other Author (Accepted)

23. CloudMix: Dual Mixup Consistency for Unpaired Point Cloud Completion
Fengqi Liu, Jingyu Gong, **Qianyu Zhou**, Xuequan Lu, Ran Yi, Yuan Xie, and Lizhuang Ma
IEEE Transactions on Visualization and Computer Graphics (**TVCG**), 2023.[CCF-A, JCR Q1, IF=5.6]
24. TF-FAS: Twofold-Element Fine-Grained Semantic Guidance for Generalizable Face Anti-Spoofing
Xudong Wang, Ke-Yue Zhang, Taiping Yao, **Qianyu Zhou**, Shouhong Ding, Pingyang Dai, Rongrong Ji.
European Conference on Computer Vision (**ECCV**), 2024. [CCF-B, Tsinghua-A]
25. Emphasizing Semantic Consistency of Salient Posture for Speech-Driven Gesture Generation
Fengqi Liu, Hexiang Wang, Jingyu Gong, Ran Yi, **Qianyu Zhou**, Xuequan Lu, Jiangbo Lu, Lizhuang Ma.
The 32nd ACM International Conference on Multimedia (**ACM MM**), 2024. [CCF-A]
26. ZDL: Zero-shot Degradation Factor Learning for Robust and Efficient Image Enhancement
Hao Yang, Haijun Sun, **Qianyu Zhou**, Ran Yi, Lizhuang Ma.
CAD/Graphics, 2023. [CCF-C] (**Best Paper Awarded in CAD/Graphics 2023**)
27. Dynamic Sampling and Dual Deformable Network for Real-time Video Instance Segmentation
Yiran Song, **Qianyu Zhou**, Ran Yi, Zhiwen Shao, Lizhuang Ma.
Journal of Zhejiang University (Engineering), 2024

Invention Patent

I have published 10 invention patents, of which 4 are the first inventor and 6 are other inventors:

1. **Qianyu Zhou**, Guangliang Cheng, Jianping Shi, Lizhuang Ma. Neural network training method, image processing method, device and electronic equipment (Issued, ZL2021102193564)
2. **Qianyu Zhou**, Guangliang Cheng, Jianping Shi, Lizhuang Ma. Training method, image processing method and device of neural network (Issued, ZL2020102784292)
3. **Qianyu Zhou**, Guangliang Cheng, Jianping Shi, Lizhuang Ma. Neural network training, image semantic segmentation method and device (Issued, ZL2020102961704)
4. **Qianyu Zhou**, Guangliang Cheng, Jianping Shi, Lizhuang Ma. Sample image generation, image processing, intelligent driving control method and device (CN2020111979251)
5. Ke-Yue Zhang, **Qianyu Zhou**, Taiping Yao, Bangjie Yin, Shouhong Ding. Liveness detection method, device, apparatus and medium (CN2022111853820)
6. Ke-Yue Zhang, **Qianyu Zhou**, Taiping Yao, Bangjie Yin, Shouhong Ding. Face liveness detection method, device, electronic device and readable storage medium (CN2022110207154)
7. Ke-Yue Zhang, **Qianyu Zhou**, Taiping Yao, Bangjie Yin, Shouhong Ding. A method, device and storage medium for liveness detection (CN2023103906799)
8. Lu He, **Qianyu Zhou**, Xiangtai Li, Guangliang Cheng, Xiao Li, Lizhuang Ma. Object detection method, device, electronic device and storage medium (CN2021105581561)
9. Qiqiq Gu, **Qianyu Zhou**, Guangliang Cheng, Jianping Shi, Lizhuang Ma. Neural network generation, image processing method, device, electronic device and medium (CN2021103493320)
10. Chuyun Zhuang, **Qianyu Zhou**, Xuequan Lu, Lizhuang Ma. An unsupervised domain adaptive semantic segmentation method based on region feature alignment(CN2021111968590)

Academic Services

Journal Reviewer:

1. IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI);
2. International Journal of Computer Vision (IJCV);
3. IEEE Transactions on Image Processing (TIP);
4. IEEE Transactions on Multimedia (TMM);
5. IEEE Transactions on Circuits and Systems for Video Technology (TCSVT);
6. Information Fusion; Neurocomputing;

Conference Reviewer//Program Committee Member:

1. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022 - 2024;
2. IEEE International Conference on Computer Vision (ICCV), 2023;
3. European Conference on Computer Vision (ECCV), 2022;
4. International Conference on Machine Learning (ICML), 2024;
5. AAAI Conference on Artificial Intelligence (AAAI), 2023 - 2024;
6. ACM International Conference on Multimedia (ACM MM), 2023 - 2024;
7. IEEE International Conference on Multimedia and Expo (ICME), 2023 - 2024;

Honor and Award

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| 2019-2024 | Zhiyuan Honored Ph.D Fellowship (The Highest Honor), Shanghai Jiao Tong University |
| 2019-2024 | Wenjun wu AI Honored Ph.D Fellowship, Shanghai Jiao Tong University |
| 2023 | Yuanqing Yang Ph.D Fellowship, Shanghai Jiao Tong University |
| 2023 | Huatai Securities Scholarship, Shanghai Jiao Tong University |
| 2022 | Huawei Scholarship, Shanghai Jiao Tong University |
| 2023 | Best Paper Award in CAD/Graphics 2023 |
| 2023 | Top 3% Paper Recognition of all papers accepted at ICASSP 2023 |
| 2022 | First Class Scholarship of DMCV Lab, Shanghai Jiao Tong University |
| 2019 | Top Ten Honorary Undergraduates (The Highest Honor), Jilin University |
| 2019 | President Scholarship of Jilin University |
| 2019 | Outstanding Graduates of Jilin University |
| 2016-2018 | National Scholarship, Ministry of Education of P.R. China |
| 2016-2018 | Excellent Undergraduate, Jilin University |
| 2018 | Qihoo 360 Scholarship, Jilin University |

Projects

1. Project participant in National Natural Science Foundation of China Major Project "Research on Theory and Method of Machine Behavior and Man-Machine Collaborative Decision Making" (No.72192821, January 2022-December 2026),
2. Project participant in National Natural Science Foundation Project "Hierarchical Fine-grained Understanding and Reconstruction of 3D Scenes Based on RGBD" (No.6197070703, January 2020-December 2023);
3. Project participant in National Key R & D Program "Smart Museum Key Technology Research and Development and Demonstration - Audience Behavior Perception and Accurate Portrait and Smart Service Key Technology Research" (No.2019YFC1521104, January 2020 - December 2022);
4. Project participant in Shanghai Jiao Tong University and Tencent Science and technology series cooperation project "Image Processing - Human face Technology Research" phase 10-13 (January 2020 - January 2024);
5. Project participant in Shanghai Jiao Tong University and Sensetime Technology Cooperation project "Research on Visual Domain Transfer for Intelligent Driving" (April 2020 - April 2021);
6. Project participant in Shanghai Jiao Tong University and Ningde Times cooperation project "Continuous Welding Sealing Nail, Bottom Blue Film, Top Welding Inspection" (November 2021-June 2023);