

RAN YI

Assistant Professor (tenure-track)

Department of Computer Science and Engineering

Shanghai Jiao Tong University

Office address: No. 800, Dongchuan Road, Shanghai, 200240, China Homepage: <http://yiranran.github.io/>

Phone: (+86) 135-2276-3827

Email: ranyi@sjtu.edu.cn

EDUCATION

Tsinghua University, Beijing, China

Ph.D. in Computer Science, CS Dept., Sept 2016 - June 2021

Supervisor: Prof. Yong-Jin Liu

Tsinghua University, Beijing, China

B.Eng. in Electronic Engineering, EE Dept., Aug 2012 - July 2016

G.P.A. 94/100, Ranking 5/237

Melbourne University, Melbourne, Australia

Exchange Student, Feb 2015 - June 2015

RESEARCH INTERESTS

Computer Graphics and Computer Vision: computational geometry, artificial intelligence art creation, visual media processing.

PROJECT EXPERIENCE

Shanghai Sailing Program of Science and Technology Commission

Apr 2022-Mar 2025

PI: **Ran Yi**, Funding: 200k CNY

Tencent Technology (Shanghai) Co., Ltd Collaboration Program

Dec 2021-Dec 2022

PI: **Ran Yi**, Funding: 300k CNY

Science Fund for Creative Research Groups of the National Natural Science Foundation of China “Intelligent Processing of Network Visual Media”

Jan 2016-Dec 2021

PI: Shi-Min Hu, Funding: 10.5 million CNY

Conducted research on video supervoxel segmentation and artistic portrait generation.

Key Program of the Natural Science Foundation of China “Efficient Geometric Model and Content Generation for Large-scale Industrial 3D Printing”

Jan 2015-Dec 2019

PI: Zhong-Xuan Luo, Funding for Yong-Jin Liu Group: 1.05 million CNY

Conducted research on Delta DLP 3D printing of large model.

PUBLICATIONS

16 papers in top Computer Graphics/Computer Vision/Artificial Intelligence Journals and Conferences: 3 TPAMI, 2 TOG, 1 SIGGRAPH, 2 TVCG, 5 CVPR, 1 ICCV, 1 AAAI, 1 IJCAI

Journal papers (IF indicates Impact Factor)

1. **Ran Yi**, Yong-Jin Liu, Yu-Kun Lai, Paul L. Rosin. Quality Metric Guided Portrait Line Drawing Generation from Unpaired Training Data. IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), DOI 10.1109/TPAMI.2022.3147570, 2022. **(IF=16.389, Top journal in Computer Vision)**

2. **Ran Yi**, Mengfei Xia, Yong-Jin Liu, Yu-Kun Lai, Paul L. Rosin. Line Drawings for Face Portraits from Photos using Global and Local Structure based GANs. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Vol. 43, No. 10, pages 3462-3475, 2021. **(IF=16.389, Top journal in Computer Vision)**
3. **Ran Yi#**, Zipeng Ye#, Wang Zhao, Minjing Yu, Yu-Kun Lai, Yong-Jin Liu. Feature-Aware Uniform Tessellations on Video Manifold for Content-Sensitive Supervoxels. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Vol. 43, No. 9, pages 3183-3195, 2021. **(IF=16.389, Top journal in Computer Vision)**
4. **Ran Yi**, Yong-Jin Liu, Ying He. Delaunay Mesh Simplification with Differential Evolution. *ACM Transactions on Graphics (SIGGRAPH Asia 2018)*, Vol. 37, No. 6, Article No. 263, 2018. **(IF=5.414, TOG: Top journal in Computer Graphics)**
5. **Ran Yi#**, Chenming Wu#, Yong-Jin Liu, Ying He, Charlie C. L. Wang. Delta DLP 3D Printing of Large Model. *IEEE Transactions on Automation Science and Engineering (TASE)*, Vol. 15, No. 3, pages 1193-1204, 2018. **(IF=5.083, Top journal in Automation)**
6. **Ran Yi**, Rui Zeng, Yang Weng, Minjing Yu, Yu-Kun Lai, Yong-Jin Liu. Lesion region segmentation via weakly supervised learning. *Quantitative Biology*, DOI 10.15302/J-QB-021-0272, 2021.
7. Yezhi Shu#, **Ran Yi#**, Mengfei Xia, Zipeng Ye, Wang Zhao, Yang Chen, Yu-Kun Lai, Yong-Jin Liu. GAN-based Multi-Style Photo Cartoonization. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, DOI 10.1109/TVCG.2021.3067201, 2021. **(SCI=4.579, Top journal in Computer Graphics)**
8. Zipeng Ye, Mengfei Xia, **Ran Yi***, Juyong Zhang, Yu-Kun Lai, Xuwei Huang, Guoxin Zhang, Yong-Jin Liu*. Audio-Driven Talking Face Video Generation with Dynamic Convolution Kernels. *IEEE Transactions on Multimedia (TMM)*, DOI 10.1109/TMM.2022.3142387, 2022. **(IF=6.513, Top journal in Multimedia)**
9. Zipeng Ye, Mengfei Xia, Yanan Sun, **Ran Yi***, Minjing Yu*, Juyong Zhang, Yu-Kun Lai, Yong-Jin Liu*. 3D-CariGAN: An End-to-End Solution to 3D Caricature Generation from Normal Face Photos. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, DOI 10.1109/TVCG.2021.3126659, 2021. **(SCI=4.579, Top journal in Computer Graphics)**
10. Yong-Jin Liu, Chun-Xu Xu, **Ran Yi**, Dian Fan, Ying He. Manifold Differential Evolution (MDE): A Global Optimization Method for Geodesic Centroidal Voronoi Tessellations on Meshes. *ACM Transactions on Graphics (SIGGRAPH Asia 2016)*, Vol. 35, No. 6, Article No. 243, 2016. **(IF=5.414, TOG: Top journal in Computer Graphics)**
11. Zipeng Ye, **Ran Yi**, Wengyong Gong, Yong-Jin Liu, Ying He. Dirichlet Energy of Delaunay Meshes and Intrinsic Delaunay Triangulations. *Computer-Aided Design (CAD)*, Vol. 126, 102851, 2020. (IF=3.027)
12. Zipeng Ye, Wenyu Xia, Zhiyao Sun, **Ran Yi**, Minjing Yu, Yong-Jin Liu. From traditional rendering to differentiable rendering: theories, methods and applications. *SCIENTIA SINICA Informationis*, Vol. 51, No. 7, pages 1043-1067, 2021.
13. Mengfei Xia, Zipeng Ye, Wang Zhao, **Ran Yi**, Yong-Jin Liu. Adversarial attack and interpretability of the deep neural network from the geometric perspective. *SCIENTIA SINICA Informationis*, Vol. 51, No. 9, pages 1411-1437, 2021.

Conference papers (# indicates joint first author)

1. **Ran Yi**, Zipeng Ye, Ruoyu Fan, Yezhi Shu, Yong-Jin Liu, Yu-Kun Lai, Paul L. Rosin. Animating Portrait Line Drawings from a Single Face Photo and a Speech Signal. In *Special Interest Group on Computer Graphics and Interactive Techniques Conference Proceedings (SIGGRAPH '22 Conference Proceedings)*, DOI 10.1145/3528233.3530720, 2022. (Accepted) **(Top conference in Computer Graphics)**
2. **Ran Yi**, Yong-Jin Liu, Yu-Kun Lai, Paul L. Rosin. Unpaired Portrait Drawing Generation via Asymmetric Cycle Mapping. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 8217-8225, 2020. **(Top conference in Computer Vision)**

3. **Ran Yi**, Yong-Jin Liu, Yu-Kun Lai, Paul L. Rosin. APDrawingGAN: Generating Artistic Portrait Drawings from Face Photos with Hierarchical GANs. In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pages 10743-10752, 2019. **(Top conference in Computer Vision) (Oral presentation, 5.6% acceptance rate)**
4. **Ran Yi**, Yong-Jin Liu, Yu-Kun Lai. Content-Sensitive Supervoxels via Uniform Tessellations on Video Manifolds. In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pages 646-655, 2018. **(Top conference in Computer Vision)**
5. **Ran Yi**, Yong-Jin Liu, Yu-Kun Lai. Evaluation on the Compactness of Supervoxels. In IEEE International Conference on Image Processing (ICIP), pages 2212-2216, 2018.
6. Zipeng Ye#, **Ran Yi**#, Minjing Yu, Yong-Jin Liu, Ying He. Fast Computation of Content-Sensitive Superpixels and Supervoxels using q-distances. In IEEE Conference on Computer Vision (ICCV), pages 3770-3779, 2019. **(Top conference in Computer Vision)**
7. Chenming Wu#, **Ran Yi**#, Yong-Jin Liu, Ying He, Charlie C.L. Wang. Delta DLP 3D Printing with Large Size. In The 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pages 2155-2160, 2016. **(Top conference in Robotics)**
8. Wang Zhao#, **Ran Yi**#, Yong-Jin Liu. An Adaptive Filter for Deep Learning Networks on Large-Scale Point Cloud. In IEEE International Conference on Image Processing (ICIP), pages 1620-1624, 2019.
9. Qiqi Gu, Shen Chen, Taiping Yao, Yang Chen, Shouhong Ding*, **Ran Yi***. Exploiting Fine-grained Face Forgery Clues via Progressive Enhancement Learning. In The Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI), 2022. (Accepted) **(Top conference in Artificial Intelligence)**
10. Junshu Tang, Zhijun Gong, **Ran Yi***, Yuan Xie, Lizhuang Ma*. LAKe-Net: Topology-Aware Point Cloud Completion by Localizing Aligned Keypoints. In IEEE Computer Vision and Pattern Recognition (CVPR), 2022. (Accepted) **(Top conference in Computer Vision)**
11. Shaohua Guo, Liang Liu, Zhenye Gan, Yabiao Wang, Wuhao Zhang, Chengjie Wang, Guannan Jiang, Wei Zhang, **Ran Yi***, Lizhuang Ma*, Ke Xu. ISDNet: Integrating Shallow and Deep Networks for Efficient Ultra-high Resolution Segmentation. In IEEE Computer Vision and Pattern Recognition (CVPR), 2022. (Accepted) **(Top conference in Computer Vision)**
12. Zhihao Gu, Taiping Yao, Yang Chen, **Ran Yi**, Shouhong Ding, Lizhuang Ma. Region-Aware Temporal Inconsistency Learning for DeepFake Video Detection. In The Thirty-First International Joint Conference on Artificial Intelligence (IJCAI), 2022. (Accepted) **(Top conference in Artificial Intelligence)**
13. Xu Yan, Yuntao Wang, **Ran Yi**, Zhiyu Sun, Yong-Jin Liu. StarFont: Enabling Font Completion Based on Few Shots Examples. In Proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence (ICAAI), pages 1-8, 2019.

indicates joint first author, * indicates corresponding authors

HONORS AND AWARDS

- Shi QingYun Female Scientist Award (Qing Ying Group) (2 scientists in China), Dec 2021
- IGTA 2021 Paper Contest First Prize (5 papers a year), Aug 2021
- Beijing Outstanding Graduates, July 2021
- Excellent Doctoral Dissertation of Beijing Society of Image and Graphics (BSIG) (3 dissertations a year), June 2021
- Excellent Doctoral Dissertation of Tsinghua University, June 2021
- National Graduate Student Scholarship, Dec 2020
- National Graduate Student Scholarship, Dec 2019
- CCF-CV Academic Emerging Award (3 students in China), Nov 2019
- MSRA Fellowship Nomination Award (25 students in Asia-Pacific Area), Nov 2019

- Baidu Scholarship Top 40 (worldwide), Dec 2019
- National Graduate Student Scholarship, Nov 2018
- CCF-CV Academic Emerging Award Nomination, Nov 2018
- Phicomm (Shanghai) Co., Ltd Scholarship, October 2017
- Beijing Outstanding Graduates, June 2016
- Excellent Graduates of Tsinghua University, June 2016
- Excellent Academic Performance Single Scholarship, October 2015
- Excellent Academic Performance Single Scholarship, October 2014