Hongrui Cai

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Research Interests

Computer Vision & Graphics: 3D geometry processing, point cloud processing, image and video generation.

Education

University of Science and Technology of China   Hefei, China
Ph.D. in 3D Vision   Sep. 2021 – Present
Mentors: Prof. Juyong Zhang.

University of Science and Technology of China   Hefei, China
M.S. in Data Science   Sep. 2019 – Jul. 2021
Mentors: Prof. Juyong Zhang. GPA: **3.85**/4.3

South China University of Technology   Guangzhou, China
B.S. in Mathematics and Applied Mathematics   Sep. 2015 – Jun. 2019
Ranking: **1**/46. GPA: **92.15**/100

Papers

W. Feng, J. Li, **H. Cai**, X. Luo, J. Zhang, (2021). Neural Points: Point Cloud Representation with Neural Fields. Under Review.

X. Huang, **H. Cai**, D. Liang, J. Zhang, J. Jia, (2021). CariPainter: Sketch Guided Interactive Caricature Generation. Under Review.

W. Feng, **H. Cai**, J. Hou, B. Deng, J. Zhang, (2021). Differentiable Deformation Graph based Neural Non-rigid Registration. Under Review.

H. Cai, Y. Guo, Z. Peng, J. Zhang, (2021). Landmark Detection and 3D Face Reconstruction for Caricature using a Nonlinear Parametric Model. *Graphical Models* **(GMOD)**.

W. Feng, J. Zhang, **H. Cai**, H. Xu, J. Hou, H. Bao, (2021). Recurrent Multi-view Alignment Network for Unsupervised Surface Registration. *IEEE Conference on Computer Vision and Pattern Recognition* **(CVPR)**.

Y. Guo, J. Zhang, Y. Chen, **H. Cai**, Z. Huang, B. Deng, (2021). Real-Time Face View Correction for Front-Facing Cameras. *Computational Visual Media* **(CVM)**.

Projects

Real-Time Face View Correction for Front-Facing Cameras
Horizontal project   Sep. 2019 – Oct. 2020

Propose a fully automatic face view correction system based on a single RGB camera to solve video calling problems such as "upward nose" and "big face" caused by the disparity between camera location and face orientation.

Selected Honors	Excellent Undergraduate Student, by SCUT	2019
	Excellent Undergraduate Thesis Award, by SCUT	2019
	First-Class Academic Scholarships for Postgraduates, by USTC	2019 - 2021

Academic Talks	Oral presentation in CVM 2021	Apr. 2021