

Weikai Chen

SENIOR RESEARCH SCIENTIST, TENCENT US

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POSITIONS	Tencent US, U.S.A <i>Senior Research Scientist</i>	Sep. 2019 - Present
	USC Institute for Creative Technologies, U.S.A <i>Research Associate, Vision and Graphics Lab</i> <i>Postdoctoral Researcher, Vision and Graphics Lab</i>	Jan. 2019 - Sep. 2019 Jun. 2017 - Jan. 2019
	INRIA, France <i>Visiting Researcher, Alice Team</i>	Jun. 2016 - Aug. 2016

EDUCATION	The University of Hong Kong, Hong Kong - <i>Ph.D. in Computer Graphics</i> , advised by Prof. Wenping Wang,	Apr. 2013 - Apr. 2017
	Tianjin University, Tianjin, China - <i>Mphil. in Wireless Communication</i> , - <i>B.S. in Electronic Engineering</i> ,	Sep. 2010 - Feb. 2013 Sep. 2006 - Jul. 2010

RESEARCH INTERESTS	Interplay among vision, graphics, and deep learning: 3D reasoning from RGB images, 3D reconstruction of general objects/body/face/hair, differentiable rendering, deep generative models.
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PUBLICATIONS	<p>[24] Heming Zhu, Yu Cao, Hang Jin, <i>Weikai Chen</i>, Dong Du, Zhangye Wang, Shuguang Cui, Xiaoguang Han, “Deep Fashion3D: A Dataset and Benchmark for 3D Garment Reconstruction from Single Images”, <i>European Conference on Computer Vision (ECCV)</i>, 2020, Oral Presentation.</p> <p>[23] Shichen Liu, Tianye Li, <i>Weikai Chen*</i>, Hao Li, “A General Differentiable Mesh Renderer for Image-based 3D Reasoning”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, 2020.</p> <p>[22] Kyle Olszewski, Duygu Ceylan, Jun Xing, Jose I. Echevarria, Zhili Chen, <i>Weikai Chen</i>, Hao Li, “Intuitive, Interactive Beard and Hair Synthesis with Generative Models”, <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2020, Oral Presentation.</p> <p>[21] Lihao Tian, Lin Lu, <i>Weikai Chen</i>, Yang Xia, Charlie C. L. Wang and Wenping Wang, “Organic Open-cell Porous Structure Modeling”, <i>ACM Symposium on Computational Fabrication (ACM SCF)</i>, 2020.</p> <p>[20] Shichen Liu, Shunsuke Saito, <i>Weikai Chen*</i>, Hao Li, “Learning to Infer Implicit Surfaces without 3D Supervision”, <i>Neural Information Processing Systems (NeurIPS)</i>, 2019.</p> <p>[19] Shichen Liu, Tianye Li, <i>Weikai Chen</i>, Hao Li, “Soft Rasterizer: A Differentiable Renderer for Image-based 3D Reasoning”, <i>International Conference on Computer Vision (ICCV)</i>, 2019, Oral Presentation. – Accepted with 3 Strong Accepts</p> <p>[18] Yajie Zhao, Zeng Huang, Tianye Li, <i>Weikai Chen</i>, Chloe LeGendre, Xinglei Ren, Ari Shapiro, Hao Li, “Learning Perspective Undistortion of Portraits”, <i>International Conference on Computer Vision (ICCV)</i>, 2019, Oral Presentation.</p>
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- [17] Junyi Pan, Xiaoguang Han, *Weikai Chen*, Jiapeng Tang, Kui Jia, “Deep Mesh Reconstruction from Single RGB Images via Topology Modification Networks”, *International Conference on Computer Vision (ICCV)*, 2019.
- [16] Jun Xing, Koki Nagano, *Weikai Chen*, Haotian Xu, Li-Yi Wei, Jingwan Lu, Byungmoon Kim, Yajie Zhao, Hao Li, “HairBrush for Immersive Data-Driven Hair Modeling”, *ACM Symposium on User Interface Software and Technology (UIST)*, 2019.
- [15] Ryota Natsume, Shunsuke Saito, Zeng Huang, *Weikai Chen*, Chongyang Ma, Hao Li, Shigeo Morishima, “SiCloPe: Silhouette-Based Clothed People”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019, **Oral Presentation**. – **CVPR Best Paper Finalists**
- [14] Yajie Zhao, Qingguo Xu, *Weikai Chen*, Jun Xing, Chao Du, Xinyu Huang, Ruigang Yang, “Mask-off: Synthesizing Face Images in the Presence of Head-mounted Displays”, *IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)*, 2019.
- [13] Zeng Huang, Tianye Li, *Weikai Chen*, Yajie Zhao, Jun Xing, Chloe LeGendre, Linjie Luo, Chongyang Ma and Hao Li, “Deep Volumetric Video From Very Sparse Multi-View Performance Capture”, *European Conference on Computer Vision (ECCV)*, 2018.
- [12] Yi Zhou, Liwen Hu, Jun Xing, *Weikai Chen*, Han-Wei Kung, Xin Tong, and Hao Li, “HairNet: Single-View Hair Reconstruction using Convolutional Neural Networks”, *European Conference on Computer Vision (ECCV)*, 2018.
- [11] Shugo Yamaguchi, Shunsuke Saito, Koki Nagano, Yajie Zhao, *Weikai Chen*, Shigeo Morishima and Hao Li, “High-Fidelity Facial Reflectance and Geometry Inference From an Unconstrained Image”, *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2018)*.
- [10] Loc Huynh, *Weikai Chen*, Shunsuke Saito, Jun Xing, Koki Nagano, Andrew Jones, Hao Li and Paul Debevec, “Mesoscopic Facial Geometry inference Using Deep Neural Networks”, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018, **Spotlight**.
- [9] Yajie Zhao, *Weikai Chen*, Jun Xing, Xiaoming Li, Zach Bessinger, Fuchang Liu, Wangmeng Zuo and Ruigang Yang, “Identity Preserving Face Completion for Large Ocular Region Occlusion”, *British Machine Vision Conference (BMVC)*, 2018.
- [8] *Weikai Chen*, Xiaoguang Han, Guanbin Li, Chao Chen, Jun Xing, Yajie Zhao and Hao Li, “Deep RBFNet: Point Cloud Feature Learning using Radial Basis Functions”, *arXiv:1812.04302*, 2018.
- [7] *Weikai Chen*, Yuexin Ma, Sylvain Lefebvre, Shiqing Xin, Jons Martnez and Wenping Wang, “Fabricable Tile Decors,” *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 2017.
- [6] Jonathan Palacios, Lawrence Roy, Prashant Kumar, Chen-Yuan Hsu, *Weikai Chen*, Chongyang Ma, Li-Yi Wei and Eugene Zhang, “Tensor Field Design in Volumes”, *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 2017.
- [5] *Weikai Chen*, Xiaolong Zhang, Shiqing Xin, Yang Xia, Sylvain Lefebvre and Wenping Wang, “Synthesis of Filigrees for Digital Fabrication”, *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 2016.
- [4] Hui Zhang, *Weikai Chen*, Bin Wang, and Wenping Wang, “By Example Synthesis of Three-Dimensional Porous Materials”, *Computer Aided Geometric Design (GMP)*, 2017.
- [3] Jonathan Palacios, Chongyang Ma, *Weikai Chen*, Li-Yi Wei, and Eugene Zhang, “Tensor Field Design in Volumes”, *SIGGRAPH Asia Technical Briefs*, 2016.

[2] *Weikai Chen*, and Yunhui Chen, “Second-order Differential based Matching Pursuit Method for Compressive Sensing Signal Recovery”, in *International Conference on Wireless Communications and Signal Processing (WCSP)*, 2012.

[1] Kaihua Liu, *Weikai Chen** and Yongtao Ma, “A compressive sensing method for estimating doubly-selective sparse channels in OFDM system”, *Journal of Tianjin University*, Dec. 2012.

* indicates corresponding author.

PROFESSIONAL ACTIVITIES

Senior Program Committee:

- IJCAI 2021

Program Committee:

- AAAI 2020, 2021
- Computational Visual Media Conference (CVM) 2019, 2020
- IEEE Artificial Intelligence & Virtual Reality (AIVR) 2019, 2020
- Shape Modeling International (SMI) - Fabrication and Sculpting Event 2019
- Pacific Graphics 2018

Reviewer:

- Conference
 - ICLR 2021
 - CVPR 2019, 2020, 2021
 - NeurIPS 2020
 - ECCV 2020
 - ICCV 2019
 - ACM SIGGRAPH Asia 2017, 2019
 - WACV 2020
 - ACCV 2020
 - International Conference on 3D Vision (3DV) 2018
 - Pacific Graphics 2015, 2018
 - ACM Symposium on Virtual Reality Software and Technology 2018
 - International Conference on Machine Vision Applications (MVA) 2019
- Journal
 - IEEE Transactions on Visualization and Computer Graphics
 - NeuroComputing
 - Computer Aided Geometric Design
 - The Visual Computer Journal
 - Graphical Models

AWARDS	Best Open-source Dataset Award (Deep Fashion3D) - China Computer Fedaration	2020
	ACCV Outstanding Reviewer,	2020
	CVPR Best Paper Finalist,	2019
	HKU Postgraduate Scholarship,	2013 - 2017
	National Scholarship by Ministry of Education,	2012
	Champion of Presentation in Joint-Hall Academic Symposium,	2015
	Champion of Presentation in 4th Morrison Hall Academic Symposium,	2014
	First-Class Postgraduate Scholarship,	2010 - 2013
	Huawei Scholarship,	2008
	Outstanding Student of Tianjin University,	2006 - 2010

SKILLS **Programming:** C/C++, Python, Matlab, Lua, Mel; OpenGL/CV, Tensorflow, Pytorch, Caffe
Languages: Mandarin Chinese (native), English (professional), Cantonese (professional)