

Chongyang Ma

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RESEARCH INTERESTS	Computer graphics and computer vision: deep generative models, image/video manipulation, motion capture, human digitization, face tracking, 3D reconstruction, data-driven animation, procedural modeling, digital geometry processing, texture synthesis.	
EDUCATION	Tsinghua University , Beijing, China	
	Ph.D., Institute for Advanced Study, <ul style="list-style-type: none">• Major: Computer Science• Adviser: Prof. Baining Guo	Sep 2007 to Jul 2012
	B.S., Fundamental Science Class, <ul style="list-style-type: none">• Major: Mathematics and Physics	Sep 2004 to Jul 2007
	High School attached to Tsinghua University , Beijing, China	
	National Honored Science Class,	Sep 2001 to Aug 2004
WORK EXPERIENCE	Snap Inc. , U.S.A. <ul style="list-style-type: none">• Senior Research Scientist• Senior Research Engineer• Research Engineer	Jun 2017 to present Nov 2017 to May 2018 Nov 2016 to Nov 2017
	Activision Publishing, Inc. , U.S.A. <ul style="list-style-type: none">• Senior Computer Vision Research Engineer	Jul 2015 to Nov 2016
	University of Southern California , U.S.A. <ul style="list-style-type: none">• Postdoctoral Scholar in Geometric Capture Lab	Oct 2013 to Jun 2015
	The University of British Columbia , Canada <ul style="list-style-type: none">• Postdoctoral Fellow in IMAGER Laboratory	Sep 2012 to Sep 2013
OTHER POSITIONS	Weta Digital , New Zealand <ul style="list-style-type: none">• Research and Development Intern	Jun 2014 to Aug 2014
	INRIA Nancy Grand-Est , France <ul style="list-style-type: none">• Visiting student in ALICE team	Aug 2011 to Feb 2012
	Microsoft Research Asia , China <ul style="list-style-type: none">• Research Intern in Internet Graphics group	Mar 2012 to Jul 2012 Apr 2008 to Aug 2011
PUBLICATIONS	[22] Shunsuke Saito, Liwen Hu, Chongyang Ma , Linjie Luo and Hao Li. 2018. “3D Hair Synthesis Using Volumetric Variational Autoencoders”. Conditionally accepted to SIGGRAPH Asia 2018.	

- [21] Kekai Sheng, Weiming Dong, **Chongyang Ma**, Xing Mei, Feiyue Huang and Bao-Gang Hu. 2018. “Attention-based Multi-Patch Aggregation for Image Aesthetic Assessment”. Proceedings of ACM Multimedia Conference (MM).
- [20] Zeng Huang, Tianye Li, Weikai Chen, Yajie Zhao, Jun Xing, Chloe LeGendre, Linjie Luo, **Chongyang Ma** and Hao Li. 2018. “Deep Volumetric Video From Very Sparse Multi-View Performance Capture”. Proceedings of the 15th European Conference on Computer Vision (ECCV).
- [19] Daniel Ron, Kun Duan, **Chongyang Ma**, Ning Xu, Shenlong Wang, Sumant Hanumante and Dhritiman Sagar. 2018. “Monocular Depth Estimation via Deep Structured Models with Ordinal Constraints”. Proceedings of the 6th International Conference on 3D Vision (3DV).
- [18] Jonathan Palacios, Lawrence Roy, Prashant Kumar, Chen-Yuan Hsu, Weikai Chen, **Chongyang Ma**, Li-Yi Wei and Eugene Zhang. 2017. “Tensor Field Design in Volumes”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2017), Vol 36, Issue 6, 188:1–188:15.
- [17] Alex Smith, Sven Pohle, Wan-Chun Ma, **Chongyang Ma**, Xian-Chun Wu, Yanbing Chen, Etienne Danvoye, Jorge Jimenez, Sanjit Patel, Mike Sanders and Cyrus A. Wilson. 2017. “Emotion Challenge: Building a New Photoreal Facial Pipeline for Games”. Proceedings of the Digital Production Symposium (DigiPro), 8:1–8:2.
- [16] Sema Berkiten, Maciej Halber, Justin Solomon, **Chongyang Ma**, Hao Li and Szymon Rusinkiewicz. 2017. “Learning Detail Transfer based on Geometric Features”. Computer Graphics Forum (Proceedings of Eurographics 2017, **Best Paper Award Honorable Mention**), Vol 36, Issue 2, 361–373.
- [15] Yong Zhang, Weiming Dong, **Chongyang Ma**, Xing Mei, Ke Li, Feiyue Huang, Bao-Gang Hu and Oliver Deussen. 2017. “Data-Driven Synthesis of Cartoon Faces Using Different Styles”. IEEE Transactions on Image Processing (TIP), Vol 26, Issue 1, 464–478.
- [14] Wan-Chun Ma, Mathieu Lamarre, Etienne Danvoye, **Chongyang Ma**, Manny Ko and Cyrus Wilson. 2016. “Semantically-aware Blendshape Rigs from Facial Performance Measurements”. SIGGRAPH Asia Technical Briefs, 3:1–3:4.
- [13] Jonathan Palacios, **Chongyang Ma**, Weikai Chen, Li-Yi Wei and Eugene Zhang. 2016. “Tensor Field Design in Volumes”. SIGGRAPH Asia Technical Briefs, 18:1–18:4.
- [12] Yan Kong, Weiming Dong, Xing Mei, **Chongyang Ma**, Tong-Yee Lee, Siwei Lyu, Feiyue Huang and Xiaopeng Zhang. 2016. “Measuring and Predicting Visual Importance of Similar Objects”. IEEE Transactions on Visualization and Computer Graphics (TVCG), Vol 22, Issue 12, 2564–2578.
- [11] Liwen Hu, **Chongyang Ma**, Linjie Luo and Hao Li. 2015. “Single-View Hair Modeling Using A Hairstyle Database”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2015), Vol 34, Issue 4, 125:1–125:9.
- [10] Hao Li, Laura Trutoiu, Kyle Olszewski, Lingyu Wei, Tristan Trutna, Pei-Lun Hsieh, Aaron Nicholls and **Chongyang Ma**. 2015. “Facial Performance Sensing Head-Mounted Display”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2015), Vol 34, Issue 4, 47:1–47:9.
- [9] Pei-Lun Hsieh, **Chongyang Ma**, Jihun Yu and Hao Li. 2015. “Unconstrained Realtime Facial Performance Capture”. Proceedings of the 28th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR 2015), 1675–1683.

- [8] Liwen Hu, **Chongyang Ma**, Linjie Luo, Li-Yi Wei and Hao Li. 2014. “Capturing Braided Hairstyles”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2014), Vol 33, Issue 6, 225:1–225:9.
- [7] Liwen Hu, **Chongyang Ma**, Linjie Luo and Hao Li. 2014. “Robust Hair Capture Using Simulated Examples”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2014), Vol 33, Issue 4, 126:1–126:10.
- [6] **Chongyang Ma**, Haibin Huang, Alla Sheffer, Evangelos Kalogerakis and Rui Wang. 2014. “Analogy-Driven 3D Style Transfer”. Computer Graphics Forum (Proceedings of Eurographics 2014), Vol 33, Issue 2, 175–184.
- [5] **Chongyang Ma**, Nicholas Vining, Sylvain Lefebvre and Alla Sheffer. 2014. “Game Level Layout from Design Specification”. Computer Graphics Forum (Proceedings of Eurographics 2014), Vol 33, Issue 2, 95–104.
- [4] **Chongyang Ma**, Li-Yi Wei, Sylvain Lefebvre and Xin Tong. 2013. “Dynamic Element Textures”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2013), Vol 32, Issue 4, 90:1–90:10.
- [3] **Chongyang Ma**, Li-Yi Wei and Xin Tong. 2011. “Discrete Element Textures”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2011), Vol 30, Issue 4, 62:1–62:10.
- [2] Baoquan Liu, Li-Yi Wei, Xu Yang, **Chongyang Ma**, Ying-Qing Xu, Baining Guo and Enhua Wu. 2011. “Non-Linear Beam Tracing on a GPU”. Computer Graphics Forum, Vol 30, Issue 8, 2156–2169.
- [1] **Chongyang Ma**, Li-Yi Wei, Baining Guo and Kun Zhou. 2009. “Motion Field Texture Synthesis”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2009), Vol 28, Issue 5, 110:1–110:8.

DISSERTATION **Chongyang Ma**. 2012. “Modeling Geometric and Dynamic Details Based on Texture Exemplars”. PhD Thesis, Tsinghua University.

PATENTS 10 US patents filed in total. Selected list:

- [4] Wan-Chun Ma and **Chongyang Ma**. “Systems and Methods for Automating the Animation of Blendshape Rigs”. US Patent No. 15/299,916, filed Oct 21, 2016.
- [3] Wan-Chun Ma and **Chongyang Ma**. “Systems and Methods for Automating the Personalization of Blendshape Rigs Based on Performance Capture Data”. US Patent No. 15/299,882, filed Oct 21, 2016.
- [2] Li-Yi Wei, **Chongyang Ma** and Xin Tong. “Discrete Element Texture Synthesis”. US Patent 8698829, granted Apr 15, 2014.
- [1] Li-Yi Wei, **Chongyang Ma**, Baining Guo and Kun Zhou. “Motion Field Texture Synthesis”. US Patent 20110012910, filed Jul 15, 2009.

TEACHING Co-Instructor, University of Southern California, Department of Computer Science
 CSCI 599: Digital Geometry Processing SS 2014
 CSCI 420: Computer Graphics FS 2014

- [11] **Videos: the best of Siggraph 2015's technical papers.** *cgchannel.com*
- [10] **Performance driven facial animation.** *fxguide.com*
- [9] **Oculus VR figures out how avatars can mimic your facial expressions.** *engadget.com*
- [8] **Oculus can map your real-life expressions onto your VR avatar.** *Wired*
- [7] **Sensors Bring You Face to Face with Your Virtual Reality Avatar.** *vice.com*
- [6] **Oculus Rift hack transfers your facial expressions onto your virtual avatar.** *Ars Technica*
- [5] **Oculus Rift Hack Transfers Your Facial Expressions onto Your Avatar.** *MIT Tech. Review*
- [4] **Oculus Rift teams with researchers to produce ability to capture and display facial expressions.** *TechXplore.com*
- [3] **Martin Breidt on the Uncanny Valley & Facial Tracking within a VR Head-Mounted Display by Oculus Research.** *Voices of VR Podcast*
- [2] **L'Oculus Rift reproduit maintenant les expressions faciales.** *Le Monde* (in French)
- [1] **Malen mit Zahlen.** *c't* 19/2011 (in German)

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