

Chongyang Ma

CONTACT INFORMATION	ByteDance Inc. 1199 Coleman Ave San Jose, CA 95110, U.S.A.	<i>Mobile:</i> +1-(213)291-5442 <i>E-mail:</i> chongyangm@gmail.com <i>Homepage:</i> http://chongyangma.com/
RESEARCH INTERESTS	Computer Graphics and Computer Vision: deep generative models, image & video manipulation, human digitization, motion capture, face tracking, 3D understanding & reconstruction, physics-based simulation, data-driven animation, procedural modeling, digital geometry processing, and texture synthesis.	
EDUCATION	Tsinghua University , Beijing, China	
	Ph.D., Institute for Advanced Study, <ul style="list-style-type: none">• Major: Computer Science	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
	Tsinghua High School , Beijing, China	
	National Honored Science Class,	Sep 2001 to Aug 2004
WORK EXPERIENCE	ByteDance Inc. , U.S.A. <ul style="list-style-type: none">• Tech Lead Manager	
		Dec 2023 to present
	Kuaishou Technology , U.S.A. <ul style="list-style-type: none">• Research Lead/Manager	
		Mar 2019 to Dec 2023
	Snap Inc. , U.S.A. <ul style="list-style-type: none">• Senior Research Scientist• Senior Research Engineer• Research Engineer	
		Jun 2018 to Feb 2019 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

- Research Intern in Internet Graphics group

Mar 2012 to Jul 2012

Apr 2008 to Aug 2011

PUBLICATIONS <https://scholar.google.com/citations?user=l-ZQfpQAAAAJ&hl=en>

- [1] Xun Guo, Mingwu Zheng, Liang Hou, Yuan Gao, Yufan Deng, Pengfei Wan, Di Zhang, Yufan Liu, Weiming Hu, Zhengjun Zha, Haibin Huang, **Chongyang Ma**. 2024. “I2V-Adapter: A General Image-to-Video Adapter for Diffusion Models”. ACM SIGGRAPH 2024 (conference paper track), accepted.
- [2] Shiyuan Yang, Liang Hou, Haibin Huang, **Chongyang Ma**, Pengfei Wan, Di Zhang, Xiaodong Chen, Jing Liao. 2024. “Direct-a-Video: Customized Video Generation with User-Directed Camera Movement and Object Motion”. ACM SIGGRAPH 2024 (conference paper track), accepted.
- [3] Haotian Yang, Mingwu Zheng, **Chongyang Ma**, Yu-Kun Lai, Pengfei Wan, Haibin Huang. 2024. “VRMM: A Volumetric Relightable Morphable Head Model”. ACM SIGGRAPH 2024 (conference paper track), accepted.
- [4] Haowen Sun, Ruikun Zheng, Haibin Huang, **Chongyang Ma**, Hui Huang, Ruizhen Hu. 2024. “LGTM: Local-to-Global Text-Driven Human Motion Diffusion Model”. ACM SIGGRAPH 2024 (conference paper track), accepted.
- [5] Zeyu Huang, Honghao Xu, Haibin Huang, **Chongyang Ma**, Hui Huang, Ruizhen Hu. 2024. “Spatial and Surface Correspondence Field for Interaction Transfer”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2024), accepted.
- [6] Sifei Li, Yuxin Zhang, Fan Tang, **Chongyang Ma**, Weiming Dong, Changsheng Xu. 2024. “Music Style Transfer with Time-Varying Inversion of Diffusion Models”. Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI), 547–555.
- [7] Wuqin Liu, Minoxuan Lin, Haibin Huang, **Chongyang Ma**, Weiming Dong. 2024. “FreeStyler: A Free-Form Stylization Method via Multimodal Vector Quantization”. The 12th International Conference on Computational Visual Media (CVM), 259–278.
- [8] Nisha Huang, Yuxin Zhang, Fan Tang, **Chongyang Ma**, Haibin Huang, Weiming Dong, Changsheng Xu. 2024. “DiffStyler: Controllable Dual Diffusion for Text-Driven Image Stylization”. IEEE Transactions on Neural Networks and Learning Systems (TNNLS), accepted.
- [9] Liang Hou, Qi Cao, Yige Yuan, Songtao Zhao, **Chongyang Ma**, Siyuan Pan, Pengfei Wan, Zhongyuan Wang, Huawei Shen, Xueqi Cheng. 2023. “Augmentation-Aware Self-Supervision for Data-Efficient GAN Training”. The Thirty-Seventh Annual Conference on Neural Information Processing Systems (NeurIPS), 31601–31620.
- [10] Haotian Yang, Mingwu Zheng, Wanquan Feng, Haibin Huang, Yu-Kun Lai, Pengfei Wan, Zhongyuan Wang, **Chongyang Ma**. 2023. “Towards Practical Capture of High-Fidelity Relightable Avatars”. ACM SIGGRAPH Asia 2023 (conference paper track), 23:1-23:11.
- [11] Yuxin Zhang, Weiming Dong, Fan Tang, Nisha Huang, Haibin Huang, **Chongyang Ma**, Tong-Yee Lee, Oliver Deussen, Changsheng Xu. 2023. “ProSpect: Prompt Spectrum of Staged Diffusion Models for Attribute-aware Image Generation”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2023), Vol 42, Issue 6, 244:1–244:14.

- [12] Mengtian Li*, Yi Dong*, Minxuan Lin, Haibin Huang, Pengfei Wan, **Chongyang Ma**. 2023. “Multi-Modal Face Stylization with a Generative Prior”. Computer Graphics Forum (Proceedings of Pacific Graphics 2023), Vol 42, Issue 7, accepted.
- [13] Xiangyu Zhu*, Dong Du*, Haibin Huang, **Chongyang Ma**, Xiaoguang Han. 2023. “3D Keypoint Estimation using Implicit Representation Learning”. Computer Graphics Forum (SGP), Vol 42, Issue 5, accepted.
- [14] Yuxin Zhang, Fan Tang, Weiming Dong, Haibin Huang, **Chongyang Ma**, Tong-Yee Lee, Changsheng Xu. 2023. “A Unified Arbitrary Style Transfer Framework via Adaptive Contrastive Learning”. ACM Transactions on Graphics, Vol 42, Issue 5, 169:1–169:16.
- [15] Gengxin Liu, Qian Sun, Haibin Huang, **Chongyang Ma**, Yulan Guo, Li Yi, Hui Huang, Ruizhen Hu. “Semi-Weakly Supervised Object Kinematic Motion Prediction”. 2023. Proceedings of the 36th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 21726–21735.
- [16] Yujian Zheng, Zirong Jin, Moran Li, Haibin Huang, **Chongyang Ma**, Shuguang Cui, Xiaoguang Han. “HairStep: Transfer Synthetic to Real Using Strand and Depth Maps for Single-View 3D Hair Modeling”. 2023. Proceedings of the 36th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR, **selected as a highlight**), 12726–12735.
- [17] Yuxin Zhang, Nisha Huang, Fan Tang, Haibin Huang, **Chongyang Ma**, Weiming Dong, Changsheng Xu. “Inversion-Based Creativity Transfer with Diffusion Models”. 2023. Proceedings of the 36th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 10146–10156.
- [18] Wuqin Liu, Minxuan Lin, Haibin Huang, **Chongyang Ma**, Yu Song, Weiming Dong, Changsheng Xu. 2023. “Emotion-Aware Music Driven Movie Montage”. Journal of Computer Science and Technology, Vol 38, Issue 3, 540–553.
- [19] Xiaoyu Kong, Yingying Deng, Fan Tang, Weiming Dong, **Chongyang Ma**, Yongyong Chen, Zhenyu He, Changsheng Xu. 2022. “Exploring the Temporal Consistency of Arbitrary Style Transfer: A Channel-wise Perspective”. IEEE Transactions on Neural Networks and Learning Systems (TNNLS), accepted.
- [20] Moran Li, Haibin Huang, Yi Zheng, Mengtian Li, Nong Sang, **Chongyang Ma**. 2022. “Implicit Neural Deformation for Sparse-View Face Reconstruction”. Computer Graphics Forum (Proceedings of Pacific Graphics 2022), Vol 41, Issue 7, 601–610.
- [21] Yiqin Zhao, **Chongyang Ma**, Haibin Huang, Tian Guo. 2022. “LitAR: Visually Coherent Lighting for Mobile Augmented Reality”. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Vol 6, Issue 3, 153:1–153:29.
- [22] Jiafeng Liu*, Haoyang Shi*, Siyuan Zhang, Yin Yang, **Chongyang Ma**, Weiwei Xu. 2022. “Automatic Quantization for Physics-Based Simulation”. ACM Transactions on Graphics (Proceedings of SIGGRAPH 2022), Vol 41, Issue 4, 51:1–51:16.
- [23] Yuxin Zhang, Fan Tang, Weiming Dong, Haibin Huang, **Chongyang Ma**, Tong-Yee Lee, Changsheng Xu. 2022. “Domain Enhanced Arbitrary Image Style Transfer via Contrastive Learning”. ACM SIGGRAPH 2022 (conference paper track), 12:1–12:8.
- [24] Yiqun Lin, Lichang Chen, Haibin Huang, **Chongyang Ma**, Xiaoguang Han, Shuguang Cui. 2022. “Task-Aware Sampling Layer for Point-Wise Analysis”. IEEE Transactions on Visualization and Computer Graphics (TVCG), accepted.

- [25] Xingyu Chen, Yufeng Liu, Yajiao Dong, Xiong Zhang, **Chongyang Ma**, Yanmin Xiong, Yuan Zhang, Xiaoyan Guo. 2022. “MobRecon: Mobile-Friendly Hand Mesh Reconstruction from Monocular Image”. Proceedings of the 35th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 20544–20554.
- [26] Yingying Deng, Fan Tang, Weiming Dong, **Chongyang Ma**, Xingjia Pan, Lei Wang, Changsheng Xu. 2022. “StyTr²: Image Style Transfer with Transformers”. Proceedings of the 35th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 11326–11336.
- [27] Zejia Su, Haibin Huang, **Chongyang Ma**, Hui Huang, Ruizhen Hu. 2023. “Point Cloud Completion on Structured Feature Map with Feedback Network”. Computational Visual Media (CVM), Vol 9, Issue 1, 71–85.
- [28] Haitao Yang, Zaiwei Zhang, Siming Yan, Haibin Huang, **Chongyang Ma**, Yi Zheng, Chandrajit Bajaj, Qixing Huang. 2021. “Scene Synthesis via Uncertainty-Driven Attribute Synchronization”. International Conference on Computer Vision (ICCV), 5630–5640.
- [29] Siming Yan, Zhenpei Yang, **Chongyang Ma**, Haibin Huang, Etienne Vouga, Qixing Huang. 2021. “HPNet: Deep Primitive Segmentation Using Hybrid Representations”. International Conference on Computer Vision (ICCV), 2753–2762.
- [30] Xingyu Chen, Yufeng Liu, **Chongyang Ma**, Jianlong Chang, Huayan Wang, Tian Chen, Xiaoyan Guo, Pengfei Wan, Wen Zheng. 2021. “Camera-Space Hand Mesh Recovery via Semantic Aggregation and Adaptive 2D-1D Registration”. Proceedings of the 34th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 13274–13283.
- [31] Minxuan Lin, Fan Tang, Weiming Dong, Xiao Li, Changsheng Xu, **Chongyang Ma**. 2021. “Distribution Aligned Multimodal and Multi-Domain Image Stylization”. ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), Vol 17, Issue 3, 96:1-96:17.
- [32] Xingjia Pan, Fan Tang, Weiming Dong, **Chongyang Ma**, Yiping Meng, Feiyue Huang, Tong-Yee Lee, Changsheng Xu. 2021. “Content-Based Visual Summarization for Image Collections”. IEEE Transactions on Visualization and Computer Graphics (TVCG), Vol 27, Issue 4, 2298–2312.
- [33] Yingying Deng, Fan Tang, Weiming Dong, Haibin Huang, **Chongyang Ma**, Changsheng Xu. 2021. “Arbitrary Video Style Transfer via Multi-Channel Correlation”. Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI), 1210–1217.
- [34] Kekai Sheng, Weiming Dong, Haibin Huang, Menglei Chai, Yong Zhang, **Chongyang Ma**, Bao-Gang Hu. 2021. “Learning to Assess Visual Aesthetics of Food Images”. Computational Visual Media (CVM), Vol 7, Issue 1, 139–152.
- [35] Yingying Deng, Fan Tang, Weiming Dong, **Chongyang Ma**, Feiyue Huang, Oliver Deussen, Changsheng Xu. 2020. “Exploring the Representativity of Art Paintings”. IEEE Transactions on Multimedia (TMM), Vol 23, 2794–2805.
- [36] Tian Chen*, Shijie An*, Yuan Zhang, **Chongyang Ma**, Huayan Wang, Xiaoyan Guo, Wen Zheng. 2020. “Improving Monocular Depth Estimation by Leveraging Structural Awareness and Complementary Datasets”. Proceedings of the 16th European Conference on Computer Vision (ECCV), 90–108.
- [37] Xingjia Pan, Yuqiang Ren, Kekai Sheng, Weiming Dong, Haolei Yuan, Xiaowei Guo, **Chongyang Ma**, Changsheng Xu. 2020. “Dynamic Refinement Network for

Oriented and Densely Packed Object Detection”. Proceedings of the 33rd IEEE International Conference on Computer Vision and Pattern Recognition (CVPR, **Oral Presentation**), 11207–11216.

- [38] Zaiwei Zhang, Zhenpei Yang, **Chongyang Ma**, Linjie Luo, Alexander Huth, Etienne Vouga, Qixing Huang. 2020. “Deep Generative Modeling for Scene Synthesis via Hybrid Representations”. ACM Transactions on Graphics (TOG, presented at SIGGRAPH 2020), Vol 39, Issue 2, 17:1–17:21.
- [39] Kekai Sheng, Weiming Dong, Menglei Chai, Guohui Wang, Peng Zhou, Feiyue Huang, Bao-Gang Hu, Rongrong Ji, **Chongyang Ma**. 2020. “Revisiting Image Aesthetic Assessment via Self-Supervised Feature Learning”. Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI, **Spotlight Presentation**), 5709–5716.
- [40] Fan Tang, Weiming Dong, Yiping Meng, **Chongyang Ma**, Fuzhang Wu, Xinrui Li, Tong-Yee Lee. 2020. “Image Retargetability”. IEEE Transactions on Multimedia (TMM), Vol 22, Issue 3, 641–654.
- [41] Huaiyu Li, Weiming Dong, Xing Mei, **Chongyang Ma**, Feiyue Huang, Bao-Gang Hu. 2019. “LGM-Net: Learning to Generate Matching Networks for Few-Shot Learning”. Proceedings of the 36th International Conference on Machine Learning (ICML), 3825–3834.
- [42] David Futschik, Menglei Chai, Chen Cao, **Chongyang Ma**, Aleksei Stoliar, Sergey Korolev, Sergey Tulyakov, Michal Kučera, Daniel Šýkora. 2019. “Real-Time Patch-Based Stylization of Portraits Using Generative Adversarial Network”. Proceedings of the 8th ACM/EG Expressive Symposium (Expressive 2019), 33–42.
- [43] Paras Maharjan, Zhu Li, Li Li, Ning Xu, **Chongyang Ma**, Yue Li. 2019. “Improving Extreme Low-Light Image Denoising via Residual Learning”. Proceedings of IEEE International Conference on Multimedia and Expo (ICME), 916–921.
- [44] Ryota Natsume*, Shunsuke Saito*, Zeng Huang, Weikai Chen, **Chongyang Ma**, Hao Li, Shigeo Morishima. 2019. “SiCloPe: Silhouette-Based Clothed People”. Proceedings of the 32nd IEEE International Conference on Computer Vision and Pattern Recognition (CVPR, **Oral Presentation, Best Paper Award Finalist**), 4480–4490.
- [45] Seonghyeon Nam, **Chongyang Ma**, Menglei Chai, William Brendel, Ning Xu, Seon Joo Kim. 2019. “End-to-End Time-Lapse Video Synthesis from a Single Outdoor Image”. Proceedings of the 32nd IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 1409–1418.
- [46] Kekai Sheng, Weiming Dong, Haibin Huang, **Chongyang Ma**, Bao-Gang Hu. 2018. “Gourmet Photography Dataset for Food Image Aesthetic Assessment”. SIGGRAPH Asia Technical Briefs, 20:1–20:4.
- [47] Shunsuke Saito, Liwen Hu, **Chongyang Ma**, Hikaru Ibayashi, Linjie Luo, Hao Li. 2018. “3D Hair Synthesis Using Volumetric Variational Autoencoders”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2018), Vol 37, Issue 6, 208:1–208:12.
- [48] Kekai Sheng, Weiming Dong, **Chongyang Ma**, Xing Mei, Feiyue Huang, Bao-Gang Hu. 2018. “Attention-based Multi-Patch Aggregation for Image Aesthetic Assessment”. Proceedings of ACM Multimedia Conference (MM), 879–886.
- [49] Zeng Huang, Tianye Li, Weikai Chen, Yajie Zhao, Jun Xing, Chloe LeGendre, Linjie Luo, **Chongyang Ma**, Hao Li. 2018. “Deep Volumetric Video From Very Sparse

Multi-View Performance Capture”. Proceedings of the 15th European Conference on Computer Vision (ECCV), 336–354.

- [50] Daniel Ron, Kun Duan, **Chongyang Ma**, Ning Xu, Shenlong Wang, Sumant Hanumante, Dhritiman Sagar. 2018. “Monocular Depth Estimation via Deep Structured Models with Ordinal Constraints”. Proceedings of the 6th International Conference on 3D Vision (3DV), 570–577.
- [51] Jonathan Palacios, Lawrence Roy, Prashant Kumar, Chen-Yuan Hsu, Weikai Chen, **Chongyang Ma**, Li-Yi Wei, 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.
- [52] Alex Smith, Sven Pohle, Wan-Chun Ma, **Chongyang Ma**, Xian-Chun Wu, Yanbing Chen, Etienne Danvoye, Jorge Jimenez, Sanjit Patel, Mike Sanders, 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.
- [53] Sema Berkiten, Maciej Halber, Justin Solomon, **Chongyang Ma**, Hao Li, 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.
- [54] Yong Zhang, Weiming Dong, **Chongyang Ma**, Xing Mei, Ke Li, Feiyue Huang, Bao-Gang Hu, Oliver Deussen. 2017. “Data-Driven Synthesis of Cartoon Faces Using Different Styles”. IEEE Transactions on Image Processing (TIP), Vol 26, Issue 1, 464–478.
- [55] Jonathan Palacios, **Chongyang Ma**, Weikai Chen, Li-Yi Wei, Eugene Zhang. 2016. “Tensor Field Design in Volumes”. SIGGRAPH Asia Technical Briefs, 18:1–18:4.
- [56] Wan-Chun Ma, Mathieu Lamarre, Etienne Danvoye, **Chongyang Ma**, Manny Ko, Cyrus Wilson. 2016. “Semantically-aware Blendshape Rigs from Facial Performance Measurements”. SIGGRAPH Asia Technical Briefs, 3:1–3:4.
- [57] Yan Kong, Weiming Dong, Xing Mei, **Chongyang Ma**, Tong-Yee Lee, Siwei Lyu, Feiyue Huang, 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.
- [58] Liwen Hu, **Chongyang Ma**, Linjie Luo, 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.
- [59] Hao Li*, Laura Trutoiu*, Kyle Olszewski*, Lingyu Wei*, Tristan Trutna, Pei-Lun Hsieh, Aaron Nicholls, **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.
- [60] Pei-Lun Hsieh, **Chongyang Ma**, Jihun Yu, Hao Li. 2015. “Unconstrained Realtime Facial Performance Capture”. Proceedings of the 28th IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 1675–1683.
- [61] Liwen Hu, **Chongyang Ma**, Linjie Luo, Li-Yi Wei, Hao Li. 2014. “Capturing Braided Hairstyles”. ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2014), Vol 33, Issue 6, 225:1–225:9.

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

(* indicates joint first authors or equal contributions.)

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

- US PATENTS
- [1] Xiao Li, Yibing Ma, **Chongyang Ma**. “Image Processing Method and Apparatus, Electronic Device, and Storage Medium”. US Patent 18/049,152 filed on Oct 24, 2022.
 - [2] Peihong Hou, **Chongyang Ma**. “Hair Rendering Method and Apparatus, Electronic Device and Storage Medium”. US Patent 17/897,309 filed on Aug 29, 2022.
 - [3] Oliver Dayun Liu, Mengtian Li, Yi Zheng, Haibin Huang, **Chongyang Ma**. “Methods and Apparatuses for Photorealistic Rendering of Images Using Machine Learning”. US Patent 17/478,733, filed on Sep 17, 2021.
 - [4] **Chongyang Ma**, Zhenyang Liu. “Method and Electronic Device for Processing Images”. US Patent 11,403,789 granted on Aug 2, 2022.
 - [5] Shijie An, Yuan Zhang, **Chongyang Ma**. “Method, Device and Non-Transitory Computer Storage Medium for Processing Image”. US Patent 11,361,459 granted on June 14, 2022.
 - [6] Kun Duan, Nan Hu, Linjie Luo, **Chongyang Ma**, Guohui Wang. “Real-Time Bokeh Effect”. US Patent 11,087,513 granted on Aug 10, 2021.
 - [7] Linjie Luo, **Chongyang Ma**, Zehao Xue. “Scaled Perspective Zoom on Resource Constrained Devices”. US Patent 10,757,319 granted on Aug 25, 2020.
 - [8] **Chongyang Ma**, Kun Duan, Xing Mei, Nan Hu. “Systems, Devices, and Methods for Image Enhancement”. US Patent 10,742,899 granted on Aug 11, 2020.

- [9] Kun Duan, Daniel Ron, **Chongyang Ma**, Ning Xu, Shenlong Wang, Sumant Hanumante, Dhritiman Sagar. “Active Image Depth Prediction”. US Patent 10,672,136 granted on Jun 2, 2020.
- [10] Wan-Chun Ma, **Chongyang Ma**. “Systems and Methods for Automating the Animation of Blendshape Rigs”. US Patent 10,586,380 granted on Mar 10, 2020.
- [11] Wan-Chun Ma, **Chongyang Ma**. “Systems and Methods for Automating the Personalization of Blendshape Rigs Based on Performance Capture Data”. US Patent 10,573,065 granted on Feb 25, 2020.
- [12] **Chongyang Ma**, Xing Mei, Nan Hu, Kirk Ouimet. “Synthesizing Cloud Stickers”. US Patent 10,565,743 granted on Feb 18, 2020.
- [13] Nan Hu, Xing Mei, **Chongyang Ma**, Kun Duan. “Annotating an Image with a Texture Fill”. US Patent 10,430,987 granted on Oct 1, 2019.
- [14] Li-Yi Wei, **Chongyang Ma**, Xin Tong. “Discrete Element Texture Synthesis”. US Patent 8,698,829 granted on Apr 15, 2014.
- [15] Li-Yi Wei, **Chongyang Ma**, Baining Guo, Kun Zhou. “Motion Field Texture Synthesis”. US Patent 12/503,162 filed on 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

STUDENT SUPERVISION **ByteDance Inc.**, Intelligent Creation

Xun Guo, research intern	Mar 2024 to present
--------------------------	---------------------

Kuaishou Technology, Y-tech

Shiyuan Yang, research intern	Oct 2023 to Dec 2023
Nisha Huang, research intern	Nov 2022 to Jul 2023
Yiqin Zhao, research intern	Jan 2022 to Apr 2022
Jiafeng Liu, research intern	Sep 2021 to Jun 2023
Yuan Yao, research intern	Jun 2021 to Mar 2022
Siming Yan, summer research intern	Jun 2020 to Sep 2020
Haitao Yang, summer research intern	May 2020 to Aug 2020
Pengda Xiang, summer research intern	May 2020 to Aug 2020
Yuliang Xiu, summer research intern	May 2020 to Aug 2020
Jinghui Li, R&D intern	Feb 2020 to Nov 2020
Hang Jin, R&D intern	Feb 2020 to Aug 2020

Snap Inc., Research Team

David Futschik, summer intern	Jun 2018 to Sep 2018
-------------------------------	----------------------

Davis Rempe, summer intern	Jun 2018 to Sep 2018
Tianye Li, summer intern	May 2018 to Aug 2018
Seonghyeon Nam, summer intern	May 2018 to Aug 2018
Daniel Ron, summer intern	May 2017 to Nov 2017

University of Southern California, Department of Computer Science

Liwen Hu, MSc by July 2014, PhD since Aug 2014	Sep 2013 to Jun 2015
--	----------------------

PROFESSIONAL
ACTIVITIES

Associate Editor

- Computer Animation and Virtual Worlds (CAVW) 2022–present

Industrial Editorial Board

- APSIPA Trans. on Information and Signal Processing (ATSIP) 2022–present

Program Committee

- ACM SIGGRAPH Technical Papers 2024
- ACM SIGGRAPH Asia Technical Papers 2023
- Computer Graphics International (CGI) 2023
- Computational Visual Media (CVM) 2023, 2024
- Shape Modeling International (SMI) 2018–2024
- Computer Animation and Social Agents (CASA) 2017–2022
- ACM SIGGRAPH Asia Technical Briefs and Posters 2019
- ACM Symposium on Interactive 3D Graphics and Games (I3D) 2015–2018
- ACM/Eurographics Symposium on Computer Animation (SCA) 2015, 2016
- Pacific Graphics (PG) 2015, 2016

Paper Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019–2022, 2024
- IEEE International Conference on Computer Vision (ICCV) 2019, 2021
- European Conference on Computer Vision (ECCV) 2020, 2022
- AAAI Conference on Artificial Intelligence (AAAI) 2020–2022
- Neural Information Processing Systems (NeurIPS) 2020, 2021
- IEEE International Conference on Multimedia and Expo (ICME) 2019
- ACM SIGGRAPH 2013–2020, 2022, 2023
- ACM SIGGRAPH Asia 2013–2019, 2021, 2022
- Eurographics 2010, 2013–2018, 2020
- Pacific Graphics 2011, 2013, 2014, 2018
- Computer Graphics International (CGI) 2012
- CAD/Graphics 2013
- Asian Conference on Computer Vision (ACCV) 2016
- IEEE VR 2018
- ACM Transactions on Graphics
- IEEE Transactions on Image Processing
- IEEE Transactions on Visualization and Computer Graphics
- IEEE Computer Graphics and Applications
- Computer Graphics Forum (Wiley Blackwell)
- Computers & Graphics (Elsevier)
- Visual Informatics (Elsevier)
- The Visual Computer (Springer)
- Signal, Image and Video Processing (Springer)

- Journal of Computer Science and Technology (Springer)
- Journal of Electronic Imaging
- Journal of Computer Graphics Techniques

Grant Reviewer

- Natural Sciences and Engineering Research Council of Canada (NSERC)

AWARDS

Microsoft Research Asia Fellowship, 2010

FILM CREDITS

The Hobbit: The Battle of the Five Armies (Weta Digital, Visual Effects), 2014

GAME CREDITS

Call of Duty: WWII (Activision), 2017

Call of Duty: Infinite Warfare (Activision), 2016

Call of Duty: Modern Warfare Remastered (Activision), 2016

Skylanders Battlecast (Activision), 2016

Last updated: May 8, 2024