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研究兴趣

计算机图形学和计算机视觉：深度生成式模型，图像和视频编辑，虚拟人，动作捕捉，人脸跟踪，三维理解和重建，物理模拟，数据驱动动画生成，过程式建模，数字几何处理，纹理合成

教育背景

清华大学

博士，高等研究院 — 2007 年 9 月至 2012 年 7 月

- 清华大学与微软亚洲研究院联合培养
- 专业方向：计算机图形学

本科，基础科学班 — 2004 年 9 月至 2007 年 8 月

- 数学物理方向

清华大学附属中学

教育部直属全国高中理科实验班 — 2001 年 9 月至 2004 年 8 月

职业经历

快手科技（Kuaishou Technology）

- 研发经理/特效技术平台图形 AI 组负责人 — 2019 年 3 月至今

美国色拉布公司（Snap Inc.）

- 高级研究科学家 — 2018 年 6 月至 2019 年 2 月
- 高级研发工程师 — 2017 年 11 月至 2018 年 5 月
- 研发工程师 — 2016 年 11 月至 2017 年 11 月

美国动视公司（Activision Publishing, Inc.）

- 高级计算机视觉研发工程师 — 2015 年 7 月至 2016 年 11 月

美国南加州大学（USC）

- 计算机系博士后 — 2013 年 10 月至 2015 年 6 月

新西兰维塔数码（Weta Digital）

- 研发实习生 — 2014 年 6 月至 2014 年 8 月

加拿大英属哥伦比亚大学（UBC）

- 计算机系 IMAGER 组博士后 — 2012 年 9 至月 2013 年 9 月

微软亚洲研究院（MSRA）

- 网络图形组实习生 — 2012 年 3 月至 2012 年 7 月

法国国家信息与自动化研究所（INRIA）

- ALICE 组访问学生 — 2011 年 8 月至 2012 年 2 月

微软亚洲研究院（MSRA）

- 网络图形组实习生 — 2008 年 4 月至 2011 年 8 月

论文发表

[41] 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.

[40] 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.

[39] 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.

[38] 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.

[37] 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.

[36] 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.

[35] 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.

[34] 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.

[33] 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.

[32] 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.

[31] 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.

[30] 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.

[29] 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.

[28] 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.

[27] David Futschik, Menglei Chai, Chen Cao, **Chongyang Ma**, Aleksei Stoliar, Sergey Korolev, Sergey Tulyakov, Michal Kučera, Daniel Sýkora. 2019. "Reat-Time Patch-Based Stylization of Portraits Using Generative Adversarial Network". Proceedings of the 8th ACM/EG Expressive Symposium (Expressive 2019), 33–42.

[26] 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.

[25] 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.

[24] 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.

[23] 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.

[22] 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.

[21] 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.

[20] 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.

[19] 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.

[18] 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.

[17] 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.

[16] 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.

[15] 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.

[14] 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.

[13] 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.

[12] 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.

[11] 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.

[10] 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.

[9] 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 2015), 1675–1683.

[8] 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.

[7] 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.

[6] **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.

[5] **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.

[4] **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.

[3] **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.

[2] 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.

[1] **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.

博士论文 "基于纹理样本的几何与动态细节建模"，清华大学高等研究院，工学博士论文，2012 年 6 月

专利 共申请 13 项美国专利（9 项已获授权）和 22 项中国专利。部分专利列表：

[11] Kun Duan, Nan Hu, Linjie Luo, **Chongyang Ma**, Guohui Wang. "Real-Time Bokeh Effect". US Patent 11,087,513 granted on Aug 10, 2021.

[10] Shijie An, Yuan Zhang, **Chongyang Ma**. "Method, Device and Non-Transitory Computer Storage Medium for Processing Image". US Patent 16/906,777 filed on June, 19, 2020.

[9] 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.

[7] 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.

[6] 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.

[5] 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.

[4] **Chongyang Ma**, Xing Mei, Nan Hu, Kirk Ouimet. "Synthesizing Cloud Stickers". US Patent 10,565,743 granted on Feb 18, 2020.

[3] 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.

[2] Li-Yi Wei, **Chongyang Ma**, Xin Tong. "Discrete Element Texture Synthesis". US Patent 8,698,829 granted on Apr 15, 2014.

[1] Li-Yi Wei, **Chongyang Ma**, Baining Guo, Kun Zhou. "Motion Field Texture Synthesis". US Patent 12/503,162, filed on Jul 15, 2009.

教学 美国南加州大学计算机系联合主讲

CSCI 599: 数字几何处理（2014 春季学期）

CSCI 420: 计算机图形学（2014 秋季学期）

学术活动 国际学术会议程序委员会成员：

- Shape Modeling International (SMI) 2018–2021
- Computer Animation and Social Agents (CASA) 2017–2021
- 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 2015, 2016

国际学术会议和期刊论文评审：

- Neural Information Processing Systems (NeurIPS) 2020, 2021
- European Conference on Computer Vision (ECCV) 2020
- AAAI Conference on Artificial Intelligence (AAAI) 2020–2022
- IEEE International Conference on Computer Vision (ICCV) 2019, 2021
- IEEE International Conference on Multimedia and Expo (ICME) 2019
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019–2021
- ACM SIGGRAPH 2013–2020
- ACM SIGGRAPH Asia 2013–2019, 2021
- 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

科研基金评审：

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

荣誉奖项 2010 年微软亚洲研究院 “微软学者” 奖学金

电影致谢名单 **霍比特人 3：五军之战**（维塔数码，视觉特效）2014

游戏致谢名单 **使命召唤：二战**（动视），2017
使命召唤：无限战争（动视），2016
使命召唤：现代战争重制版（动视），2016
Skylanders Battlecast（动视），2016

最后更新：2021 年 10 月 16 日