Mingming HE

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RESEARCH INTERSTS

Computational Photography, Video & Image Processing, Deep Learning, Face Manipulation & Modeling

EDUCATION

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY   **Hong Kong, China**
Ph.D. Computer Science & Engineering   *Jan 2015 – Nov 2018*
GPA: 4.0 / 4.33
Thesis: Synthesizing Images and Videos from Large-Scale Datasets

ZHEJIANG UNIVERSITY   **Hangzhou, Zhejiang. China**
M.S. Computer Application Technology   *Sep 2011 – Mar 2014*
GPA: 3.94 / 4.00
Thesis: GPU-Based Deep Image Rendering & Compositing System

ZHEJIANG UNIVERSITY   **Hangzhou, Zhejiang. China**
B.E. Digital Media Technology   *Sep 2007 – Jul 2011*
GPA: 3.82 / 4.00   **RANK:** 1 / 52

SIMON FRASER UNIVERSITY   **Vancouver, Canada**
Full-time Exchange Student in Interactive Arts & Technology   *Sep 2009 – Apr 2010*
GPA: 4.04 / 4.33

PROFESSIONAL EXPERIENCES

USC ICT   **Los Angeles, CA, USA**
Postdoctoral Researcher   *Mar 2019 – Present*
Microsoft Research   **Beijing, China**
Research Intern   *Feb 2017 – Jan 2018*

RESEARCH PUBLICATIONS

Gigapixel Panorama Video Loops   *2017*
***Mingming He**, Jing Liao, Pedro V. Sander, Hugues Hoppe*
ACM TOG (SIGGRAPH 2018 Presentation)

Deep Exemplar-based Colorization   *2018*
***Mingming He**, Dongdong Chen*, Jing Liao, Pedro V. Sander, Lu Yuan (*Joint first authors)*
ACM TOG (SIGGRAPH 2018)

Progressive Color Transfer with Dense Semantic Correspondences   *2019*
***Mingming He**, Jing Liao, Dongdong Chen, Lu Yuan, Pedro V. Sander*
ACM TOG (SIGGRAPH 2019 Presentation)

Deep Exemplar-based Video Colorization   *2019*
*Bo Zhang, **Mingming He**, Jing Liao, Pedro V. Sander, Lu Yuan, Amine Bermak, Dong Chen*
CVPR 2019

Gated Context Aggregation Network for Image Dehazing and Deraining   *2019*
*Dongdong Chen, **Mingming He**, Qingnan Fan, Jing Liao, Liheng Zhang, Dongdong Hou, Lu Yuan, Gang Hua*
WACV 2019

Protecting World Leaders Against Deep Fakes   *2019*

*Shruti Agarwal, Hany Farid, Yuming Gu, **Mingming He**, Koki Nagano, Hao Li*
CVPR 2019 Workshops

One-Shot Identity-Preserving Portrait Reenactment   *2020*
*Sitao Xiang, Yuming Gu, Pengda Xiang, **Mingming He**, Koki Nagano, Haiwei Chen, Hao Li*
arXiv 2020

Rethinking Spatially-Adaptive Normalization   *2020*
*Zhentao Tan, Dongdong Chen, Qi Chu, Menglei Chai, Jing Liao, **Mingming He**, Lu Yuan, Nenghai Yu*
arXiv 2020

Dynamic Facial Asset and Rig Generation from a Single Scan   *2020*
*Jiaman Li, Zhengfei Kuang, Yajie Zhao, **Mingming He**, Karl Bladin, Hao LiarXiv 2020*
ACM TOG (SIGGRAPH ASIA 2020)

ENGINEERING PROJECTS

GPU-Based Deep Image Rendering & Compositing System | M.S. Graduation Project   *2013*
   - A deep image rendering and compositing system
   - Excellent Graduate Graduation Thesis of Zhejiang University
   • Compressed deep images on demand with Adaptive Transparency Buffer
   • Proposed a ray tracing algorithm for high quality DOF in deep image space
   • Proposed an adaptive time sampling method for real-time post-processed motion blur
   • Implemented fog effects with procedural noise and light beams in deep image space

RenderAnts Pro, GPU-Based Photorealistic Rendering Engine | Team Project   *2011 – 2013*
   - A feature-film rendering system that runs entirely on GPU
   - Outstanding Contribution Award by GAPS on the contribution to RenderAnts Pro
   • Developed and designed the friendly interaction systems and editing tools (material system,
      material library, and image preview)
   • Processed complex front-end data and built an inter-process communication module
   • Developed Maya, MotionBuilder, Shave and Deadline plug-ins
   • Integrated Python scripting system to simplify the maintenance

PATENT

WO2020005650 - Image Colorization Based On Reference Information   *2020*

TEACHING EXPERIENCES

Substitute Lecturer, Computer Graphics, USC
Teaching Assistant, Game Programming, HKUST   *2016*
Teaching Assistant, Introduction to Computing with Excel VBA, HKUST   *2015*
Teaching Assistant, The Basic of Computer Science, Zhejiang University   *2012*

HONORS

Outstanding Graduates of Zhejiang University Awarded on Graduate Period   *2014*
Second-Class Scholarship for Outstanding Graduate Students (30%)   *2012*
Jiang Zhen New Graduate Scholarship for Excellent Freshmen (5%)   *2011*
Outstanding Graduates of Zhejiang University Awarded on Undergraduate Period *2011*
2K Games Scholarship for Outstanding Students   *2011*
National Scholarship for Students with Outstanding Merits   *2010*
First-Class Scholarship for Outstanding Students (3%)   *2010*
Second-Class Scholarship for Outstanding Students (8%)   *2009*