

Mingming HE

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RESEARCH INTERESTS

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

EDUCATION

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Ph.D. Computer Science & Engineering

GPA: 4.0 / 4.33

Hong Kong, China

Jan 2015 – Nov 2018

ZHEJIANG UNIVERSITY

M.S. Computer Application Technology

GPA: 3.94 / 4.00

Hangzhou, Zhejiang, China

Sep 2011 – Mar 2014

ZHEJIANG UNIVERSITY

B.E. Digital Media Technology

GPA: 3.82 / 4.00 RANK: 1 / 52

Hangzhou, Zhejiang, China

Sep 2007 – Jul 2011

SIMON FRASER UNIVERSITY

Full-time Exchange Student in Interactive Arts & Technology

GPA: 4.04 / 4.33

Vancouver, Canada

Sep 2009 – Apr 2010

PROFESSIONAL EXPERIENCE

USC ICT

Postdoctoral Researcher

Los Angeles, CA, USA

Mar 2019 – Present

Microsoft Research

Research Intern

Beijing, China

Feb 2017 – Jan 2018

PUBLICATIONS

Gigapixel Panorama Video Loops

Mingming He, Jing Liao, Pedro V. Sander, Hugues Hoppe

ACM TOG (SIGGRAPH 2018 Presentation)

2017

Deep Exemplar-based Colorization

Mingming He*, Dongdong Chen*, Jing Liao, Pedro V. Sander, Lu Yuan (*Joint first authors)

ACM TOG (SIGGRAPH 2018)

2018

Progressive Color Transfer with Dense Semantic Correspondences

Mingming He, Jing Liao, Dongdong Chen, Lu Yuan, Pedro V. Sander

ACM TOG (SIGGRAPH 2019 Presentation)

2019

Deep Exemplar-based Video Colorization

Bo Zhang, **Mingming He**, Jing Liao, Pedro V. Sander, Lu Yuan, Amine Bermak, Dong Chen

CVPR 2019

2019

Gated Context Aggregation Network for Image Dehazing and Deraining

Dongdong Chen, **Mingming He**, Qingnan Fan, Jing Liao, Liheng Zhang, Dongdong Hou, Lu Yuan, Gang Hua

WACV 2019

2019

Protecting World Leaders Against Deep Fakes

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

CVPR 2019 Workshops

2019

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

PATENTS

Image Colorization Based On Reference Information 2018

TEACHING EXPERIENCE

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

INTERNATIONAL EXPERIENCE

Student Volunteer, International Conference on Service Science 2010, China 2010
Freshman Scholarship Program, 2007 Session of the Crimson Summer Exchange, China 2007

HOBBIES

Painting, Photography