

Jun Xing (邢骏)

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RESEARCH

My research combines modern concepts in computer graphics, computer vision, machine learning and human computer interaction, with broad applications in 2D and 3D digital contents analysis and synthesis. In particular, I am interested in *interactive* modeling and *automatic* reconstruction of high-fidelity hair, face, and body for digital human avatars.

EDUCATION

PhD, Computer Science 2012.09—2016.12

University of Hong Kong, Dept. of Computer Science, advised by Dr. Li-Yi Wei

Bachelor, Electronic Engineering and Information Science 2008.09—2012.06

University of Science and Technology of China (USTC), Dept. of Electronic Engineering and Information Science

WORK EXPERIENCE

University of Southern California, postdoc in ICT, with Hao Li, Los Angeles 2017.05—present

Adobe Research, intern in the Procedural Imaging Group, with Cynthia Lu etc. San Jose 2016.07—2016.09

Autodesk Research, intern in the UI Group, with Rubaiat Habib Kazi etc. Toronto 2016.01—2016.04

Microsoft Research Asia, intern in the Visual Computing Group, with Takaaki Shiratori etc., Beijing 2014.12—2015.04

PUBLICATIONS

- Yi Zhou, Liwen Hu, **Jun Xing**, Weikai Chen, Han-Wei Kung, Xin Tong, Hao Li. HairNet: Single-View Hair Reconstruction using Convolutional Neural Networks. ECCV 2018.
- Zeng Huang, Tianye Li, Weikai Chen, Yajie Zhao, **Jun Xing**, Chloe LeGendre, Linjie Luo, Chongyang Ma, Hao Li. Deep Volumetric Video From Very Sparse Multi-View Performance Capture. ECCV 2018.
- Yajie Zhao, Weikai Chen, **Jun Xing**, Ruigang Yang. Identity Preserving Face Completion for Large Ocular Region Occlusion. BMVC 2018.
- Mengqi Peng, **Jun Xing**, Li-Yi Wei. Autocomplete 3D Sculpting. ACM Transactions on Graphics (TOG), Proceedings of ACM SIGGRAPH 2018.
- Loc Huynh, Weikai Chen, Shunsuke Saito, **Jun Xing**, Koki Nagano, Andrew Jones, Hao Li, Paul Debevec. Mesoscopic Facial Geometry Inference using Deep Neural Networks. CVPR 2018 (Spotlight).
- Xu Shen, Xinmei Tian, **Jun Xing**, Yong Rui, Dacheng Tao. Sequence-to-Sequence Learning via Shared Latent Representation. AAAI 2018.
- **Jun Xing**, Rubaiat Habib Kazi, Tovi Grossman, Li-Yi Wei, Jos Stam, George Fitzmaurice. Energy-Brushes: Interactive Tools for Illustrating Stylized Elemental Dynamics. UIST 2016.
- **Jun Xing**, Li-Yi Wei, Takaaki Shiratori, and Koji Yatani. Autocomplete Hand-drawn Animations. ACM Transactions on Graphics (TOG), Proceedings of ACM SIGGRAPH Asia 2015.
- **Jun Xing**, Hsiang-Ting Chen and Li-Yi Wei. Autocomplete Painting Repetitions. ACM Transactions on Graphics (TOG), Proceedings of ACM SIGGRAPH Asia 2014.

EXHIBITIONS

- Koki Nagano, Jaewoo Seo, Kyle San, Aaron Hong, Mclean Goldwhite, **Jun Xing**, Stuti Rastogi, Jiale Kuang, Aviral Agarwal, Hanwei Kung, Caleb Arthur, Carrie Sun, Stephen Chen, Jens Fursund, Hao Li. Deep Learning-Based Photoreal Avatars for Online Virtual Worlds in iOS. SIGGRAPH 2018 Real-time Live!

MORE RESEARCH EXPERIENCE

Strip-based Hair Modeling in VR

2017.08—present

We provide a 3D VR authoring interface for immersive interaction with the hair models. Our system combines the flexibility of manual authoring, the convenience of data-driven automation and the power of machine learning for high quality hair modeling.

Synthesizing Dynamic Facial Textures from a Single Image

2018.01—present

We propose a conditional generative adversarial network that learns a mapping from a photograph of the subject in neutral pose to an arbitrary FACS-controlled expression.

Autocomplete VR painting

2016.07—present

The goal is to handle different types of repetitions in VR painting, including the detail decorative strokes, the surface strokes, and even higher-level scaffold, in a simple and general framework.

Interactive Facial Hair Editing and Synthesis

2017.06—present

Users can design facial hairs of different shapes/lengths/densities via simple sketching, while keeping the style of a target facial hair defined by an exemplar image.

PATENTS

Techniques for Generating Dynamic Effects Animations: US filed by Autodesk (2016)

Stroke Operation Prediction for Three-Dimensional Digital Content: Pending, filed by Adobe (2017)

ACADEMIC SERVICE

Committee Member:

Pacific Graphics 2018

SIGGRAPH Emerging Technology 2017

Reviewer:

SIGGRAPH Asia 2017; CHI 2017; Computer & Graphics 2017; IEEE Transactions on Cognitive and Developmental Systems 2017; PG 2015, 2016; IEEE Computer Graphics and Applications 2016

PROFESSIONAL SKILLS

Designer: algorithm, system, UI/UX

Programmer: C/C++, Qt, Python, Java, OpenGL/CV/VR, Unity

AWARDS

Excellent intern of Stars of Tomorrow Internship Program, Microsoft Research Asia (MSRA)

2015

HKU University Postgraduate Fellowships (UPF), HKU

2012—2015

Outstanding undergraduate, USTC

2012

Outstanding undergraduate research project, USTC

2011

Second prize in Mathematical Contest in Modeling	2011
National Scholarship, Ministry of Education, P.R.China	2011
National Inspirational Scholarship, Ministry of Education, P.R.China	2009, 2010
Outstanding Students Scholarship, USTC	2008, 2009

REFERENCES

Li-Yi Wei (Adobe Research), lwei@adobe.com
Hao Li (Pinscreen, USC, ICT), hao@hao-li.com
Rubaiat Habib Kazi (Adobe Research), rhabib@adobe.com
Tovi Grossman (Autodesk Research and University of Toronto), tovi@dgp.toronto.edu
Cynthia Lu (Adobe Research), jlu@adobe.com