

Jun Xing (邢骏)

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RESEARCH

My research combines modern concepts in Computer Graphics, Human Computer Interaction and Machine Learning, with broad applications in digital painting, animation, special effects, sculpting, image, and geometry analysis and synthesis, as well as UI/UX design. Now, I am moving my application platform to VR/AR! In particular, I am interested in analyzing the human-centered activities of authoring the various digital contents, and providing online “intelligent” suggestions, via a natural interface, to reduce manual labor while improving quality and performance.

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

GPA: 3.85/4.3

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

- Xu Shen, Xinmei Tian, **Jun Xing**, Yong Rui, Dacheng Tao. Sequence-to-Sequence Learning via Shared Latent Representation. AAAI 2018.
- Mengqi Peng, **Jun Xing**, Li-Yi Wei. Autocomplete 3D Sculpting. arXiv:1703.10405 [cs.GR].
- **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.

MORE RESEARCH EXPERIENCE

Strip-based Hair Modeling in VR **2017.08—present**

Submitted to SIGGRAPH 2018

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

Submitted to SIGGRAPH 2018

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.

Hair Modeling from A Single Image via Deep Neural Network

2017.09—present

Submitted to CVPR 2018

Given an unconstrained hair image, our network can generate sparse hair strands close to the target hairstyle, which can be used as guidance to synthesize dense hair model.

Mesoscopic Facial Geometry Inference via Deep Neural Networks

2017.07—present

Submitted to CVPR 2018

We present a method to faithfully reconstruct high resolution facial geometry from a single texture image.

Identity Preserving Face Completion for Large Ocular Region Occlusion

2017.05—present

Submitted to CVPR 2018

We present a novel deep learning approach to synthesize full face images in the presence of large ocular region occlusions.

Autocomplete VR painting

2016.07—present

see video: <https://youtu.be/qW6gnSUycq4>

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:

SIGGRAPH 2017 Emerging Technology

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

Artist: digital painting, hand-drawn animation

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