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 when 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, 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

- 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

Sequence-to-Sequence Learning Via Shared Latent Representation   **2016.10－2017.04**
Submitted to AAAI 2018
We propose a general and flexible framework for sequence-to-sequence learning, where different types of media contents (e.g. video, sentences) could be encoded to and decoded from a shared latent representation.

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.

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 and the convenience of data-driven automation for high quality hair modeling.

Hairstyle Generation via Deep Neural Network   **2017.09－present**

Under my management, https://www.dropbox.com/s/3yv68ov7kpmlfap/results_segmentation_map.png?dl=0

Given an image of hair segmentation/orientation, our network (a combination of CNN, LSTMs) generates sparse hair strands on the scalp that is close the the target hairstyle, followed by hair interpolation to get the final hair model.

Interactive Facial Hair Editing and Synthesis   **2017.06－present**

Under my management, https://www.dropbox.com/s/v2ssg035rafu37a/compare_methods_guide_to_img_00.pdf?dl=0

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.

Nonlinear Encoding of Facial Geometries   **2017.08－present**

Project I am involved, submitted to CVPR 2018

We explore the nonlinear embedding of facial geometry based on latest advances of variational autoencoder.

High-fidelity Reconstruction of Facial Microgeometry from Single Image   **2017.07－present**

Project I am involved, submitted to CVPR 2018

We present a method to faithfully reconstruct high-frequency facial microgeometry from a single 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**