Jun Xing (邢骏)

Postdoctoral Researcher, USC Institute for Creative Technologies
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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/3D digital contents authoring, analysis, and synthesis. In particular, I am interested in *interactive/predictive* modeling and *deep learning-based* reconstruction of high-fidelity face, hair and body for digital human.

EDUCATION

University of Hong Kong 2012.09－2016.12
PhD in computer science, advised by Dr. Li-Yi Wei

University of Science and Technology of China (USTC) 2008.09－2012.06
Bachelor in Electronic Engineering and Information

WORK EXPERIENCE

USC Institute for Creative Technologies 2017.05－ongoing
Postdoctoral researcher, Vision and Graphics Lab, Los Angeles

Adobe Research 2016.07－2016.09
Graphics research intern, Procedural Imaging Group, San Jose

Autodesk Research 2016.01－2016.04
HCI Graphics research intern, UI Group, Toronto

Microsoft Research Asia 2014.12－2015.04
Graphics research intern, Visual Computing Group, Beijing

PUBLICATIONS

[10] **paGAN: Real-time Avatars Using Dynamic Textures**
Koki Nagano, Jaewoo Seo, *Jun Xing*, Lingyu Wei, Zimo Li, Shunsuke Saito, Aviral Agarwal, Jens Fursund, Hao Li
SIGGRAPH Asia 2018

[9] **HairNet: Single-View Hair Reconstruction using Convolutional Neural Networks**
Yi Zhou, Liwen Hu, *Jun Xing*, Weikai Chen, Han-Wei Kung, Xin Tong, Hao Li
ECCV 2018

[8] **Deep Volumetric Video from Very Sparse Multi-View Performance Capture**

Zeng Huang, Tianye Li, Weikai Chen, Yajie Zhao, *Jun Xing*, Chloe LeGendre, Linjie Luo, Chongyang Ma, Hao Li

ECCV 2018

[7] **Identity Preserving Face Completion for Large Ocular Region Occlusion**

Yajie Zhao, Weikai Chen, *Jun Xing*, Xiaoming Li, Zach Bessinger, Fuchang Liu, Wangmeng Zuo, Ruigang Yang

BMVC 2018

[6] **Autocomplete 3D Sculpting**

Mengqi Peng, *Jun Xing*, Li-Yi Wei

SIGGRAPH 2018

[5] **Mesoscopic Facial Geometry Inference using Deep Neural Networks**

Loc Huynh, Weikai Chen, Shunsuke Saito, *Jun Xing*, Koki Nagano, Andrew Jones, Hao Li, Paul Debevec

CVPR 2018 (Spotlight)

[4] **Sequence-to-Sequence Learning via Shared Latent Representation**

Xu Shen, Xinmei Tian, *Jun Xing*, Yong Rui, Dacheng Tao

AAAI 2018

[3] **Energy-Brushes: Interactive Tools for Illustrating Stylized Elemental Dynamics**

Jun Xing, Rubaiat Habib Kazi, Tovi Grossman, Li-Yi Wei, Jos Stam, George Fitzmaurice

UIST 2016

[2] **Autocomplete Hand-drawn Animations**

Jun Xing, Li-Yi Wei, Takaaki Shiratori, and Koji Yatani

SIGGRAPH Asia 2015

[1] **Autocomplete Painting Repetitions**

Jun Xing, Hsiang-Ting Chen and Li-Yi Wei

SIGGRAPH Asia 2014

EXHIBITIONS

Pinscreen Avatars in your Pocket: Mobile paGAN engine and Personalized Gaming

Koki Nagano, Shunsuke Saito, Mclean Goldwhite, Kyle San, Aaron Hong, Liwen Hu, Lingyu Wei, *Jun Xing*, Qingguo Xu, Hanwei Kung, Jiale Kuang, Aviral Agarwal, Erik Castellanos, Jaewoo Seo, Jens Fursund, Hao Li.

SIGGRAPH Asia 2018 Real-time Live!

Deep Learning-Based Photoreal Avatars for Online Virtual Worlds in iOS

Koki Nagano, Jaewoo Seo, *Jun Xing*, Kyle San, Aaron Hong, Mclean Goldwhite, Jiale Kuang, Aviral Agarwal, Caleb Arthur, Hanwei Kung, Stuti Rastogi, Carrie Sun, Stephen Chen, Jens Fursund, Hao Li.

SIGGRAPH 2018 Real-time Live!

MEDIA & PRESS

paGAN: Real-time Avatars Using Dynamic Textures

SIGGRAPH Asia 2018 Technica Papers Trailer; *fxGuide*; *LA Times*; *CBS News*; *CBC News*; *Netflix Original and Buzzfeed*; *Channel One News*; *Cartoon Brew*; *NTV (Nippon TV) News*;

HairNet: Single-View Hair Reconstruction using Convolutional Neural Networks

Nvidia News; *MIT Tech Review*;

Autocomplete 3D Sculpting

3Dnchu; *MIT Tech Review*;

Autocomplete Hand-drawn Animations

WIRED; *FastCompany*; *The Next Web*; *AnimationWeek*; *MentalFloss*; *CoolThings*; *TechTimes*; *3Dnchu*; *CGPress*;

MORE RESEARCH EXPERIENCE

Strip-based Hair Modeling in VR 2017.08－ongoing

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 for high quality hair modeling.

Autocomplete VR painting 2016.07－ongoing

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－ongoing

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.

Perspective Undistortion of Unconstrained Portrait Photos 2018.03－ongoing

We present a deep learning-based approach specially tailored for rectifying the facial distortion in an unconstrained portrait image.

Quantization Network 2018.02－ongoing

We present a simple/straightforward and general/uniform solution for any-bit weights and activations quantization, yet achieving higher performance than state-of-the-arts.

PATENTS

Techniques for Generating Dynamic Effects Animations

US filed by Autodesk (2016)

Stroke Operation Prediction for Three-Dimensional Digital Content

US filed by Adobe (2017)

ACADEMIC SERVICE

Committee Member:

AAAI 2019

International Conference on Computational Visual Media (CVM) 2019

Pacific Graphics 2018

SIGGRAPH Emerging Technology 2017

Reviewer:

CVPR 2019; VRST 2018; ACCV 2018; SIGGRAPH Asia 2017; CHI 2017;

PG 2015, 2016, 2018; Computer & Graphics 2017;

Journal on Computing and Cultural Heritage;

IEEE Transactions on Cognitive and Developmental Systems;

IEEE Computer Graphics and Applications;

PROFESSIONAL SKILLS

Designer:

algorithm, system, UI/UX

Programmer:

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

AWARDS

Adobe Research Fellowship Finalist	2016
Excellent intern of Stars of Tomorrow Internship Program, Microsoft Research Asia	2015
HKU University Postgraduate Fellowships, 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, China	2011
National Inspirational Scholarship, Ministry of Education, China	2009, 2010
Outstanding Students Scholarship, USTC	2008, 2009

REFERENCES

Dr. Li-Yi Wei	Adobe Research, lwei@adobe.com
Prof. Hao Li	Pinscreen, USC, ICT, hao@hao-li.com
Dr. Rubaiat Habib Kazi	Adobe Research, rhabib@adobe.com
Prof. Tovi Grossman	Autodesk Research and University of Toronto, tovi@dgp.toronto.edu
Dr. Jos Stam	Independent Researcher, stam.jos@gmail.com