

# YING (BRIDGET) JIANG

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## EDUCATION

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**The University of Hong Kong, Hong Kong**

*Oct 2018 - Present*

Ph.D. candidate in Industrial and Manufacturing Systems Engineering.

- Advisor: Dr. Henry Y.K Lau
- Research topics: computer graphics, virtual reality, augmented reality

**Northeastern University, China**

*Sep 2014 - Jun 2018*

- B.E. in Computer Science & Technology, Rank: 1/259, GPA: 4.2/5

## RESEARCH EXPERIENCE

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**Research Intern, CUHK MMLAB & SIAT MMLAB**

*Aug 2017 - Sep 2017*

Image classification on CIFAR-10 dataset using convolutional neural networks and YOLO-Net optimization for efficiency improvements and enabling real-time performance.

**Research Intern, SenseTime**

*Mar 2018 - Jun 2018*

Automatic captions generation for images using Conv-LSTM model on MSCO dataset.

## PUBLICATION

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**HandPainter - 3D Sketching in VR with Hand-based Physical Proxy (CHI '21)**

**Ying Jiang**, Congyi Zhang, Hongbo Fu, Alberto Cannavò, Fabrizio Lamberti, Henry Y K Lau, Wenping Wang

- Offer an initial exploration among two-handed interaction and a pad-pen interaction aimed at VR sketching via a formative study.
- First introduce two-handed interaction into VR sketching tasks and implement the prototype system, HandPainter, which seamlessly integrates precise surface-based sketching and freehand mid-air sketching without introducing additional hand-held devices (developed in C# using the Unity game engine, SteamVR SDK, and Manus VR SDK).
- Provide surface-based constrained sketching, mid-air sketching, copy, move, sweep (create B-rep objects), rescale, undo, delete, (de)select, setting, mesh editing, strokes beautification and auto-snapping functions.
- Conduct a quantitative evaluation to assess the key components of HandPainter, and also showed the expressiveness of our system by showcasing a variety of 3D designs created by novice users.

**An Automatic 3D Scene Generation Pipeline based on a Single 2D Image (AVR '21)**

Alberto Cannavò, Christian Bardella, Lorenzo Semeraro, Federico De Lorenzis, Congyi Zhang, **Ying Jiang**, Fabrizio Lamberti

- Proposed an automatic 3D scene-generation system to generate a similar layout from a single 2D image in the reconstructed environment (shown in 3D graphics software named Blender), which leveraged information regarding the camera framing the scene (e.g. point of view, perspectives cues, relative positions of the objects in the view, etc.)
- Exploited YOLOv3 to extract object labels from single 2D image for 3D mesh extraction and fully convolution residual networks to implement depth estimation for adjusting orientation and position of virtual objects.

## **PROGRAMMING EXPERIENCE**

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GUI programming, Machine Learning, Unity Development, Website Design, Compiler Design, Database Design, UWP APP.

## **TECHNICAL SKILLS**

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**Programming Language:** C++, C#, Python, C, R, CSS, Java, Matlab, Shell, HTML, SQL

**Deep Learning Framework:** PyTorch

**Language:** Chinese Mandarin(native), English(fluent)