Yuwei Li

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RESEARCH INTERESTS

- **Computer Vision**: Multiview Reconstruction, Hand Tracking
- **Computer Graphics**: Interactive Graphics, Skeleton Animation
- **Medical Image Analysis**: MRI Analysis and Reconstruction

EDUCATION

ShanghaiTech University *Ph.D, Computer Science* 2016-present

- **Advisor**: Prof. Jingyi Yu

Shanghai University *B.Sc, Computer Science* 2012-2016

- **Advisor**: Prof. Yuchun Fang

EXPERIENCE

DGene Digital Technology Inc. *R&D Intern* 2018.6-2019.12

- **Advisor**: Dr. Yingliang Zhang
- I worked as a part-time research and development intern at DGene, where I participated in a mobile virtual fitting project and worked on dynamic human reconstruction under multiview setting.

ShanghaiTech University *Research Assistant* 2015.12-2017.12

- **Advisor**: Prof. Youyi Zheng
- We developed an interactive modeling system for rapid exploratory 3D modeling (UIST 2017) and a fully automatic framework for extracting editable 3D objects directly from a single photograph (TVCG 2018).

PUBLICATIONS

PIANO: A Parametric Hand Bone Model from Magnetic Resonance Imaging

- **Yuwei Li**, Minye Wu, Yuyao Zhang, Lan Xu, Jingyi Yu
- *International Joint Conference on Artificial Intelligence (IJCAI) 2021*

IREM: A Novel Image Scanning Strategy for Achieving High-Resolution Magnetic Resonance (MR) Image via Implicit Neural Representation

- Qing Wu, **Yuwei Li**, Lan Xu, Ruiming Feng, Hongjiang Wei, Qing Yang, Boliang Yu, Xiaozhao Liu, Jingyi Yu, Yuyao Zhang
- *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2021*

AutoSweep: Recovering 3D Editable Objects from a Single Photograph

- Xin Chen, **Yuwei Li**, Xi Luo, Tianjia Shao, Youyi Zheng, Jingyi Yu, Kun Zhou
- *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2018*

SweepCanvas: Sketch-based 3D prototyping on an RGB-D image

- **Yuwei Li**, Xi Luo, Youyi Zheng, Pengfei Xu, Hongbo Fu
- *ACM User Interface Software and Technology Symposium (UIST) 2017*

RESEARCH EXPERIENCE

- **Hand Modeling From MRI** *2020.8-present*
  - Presented PIANO, the first parametric bone model of human hands from MRI data. Our PIANO model is biologically correct, simple to animate and differentiable, achieving more anatomically precise modeling of the inner hand kinematic structure in a data-driven manner than traditional hand model based on outer surface only.
- **Reconstructing High-Resolution MRI with Implicit Representation** *2020.9-2021.3*
  - Propose a novel image reconstruction network named IREM, which is trained on multiple low-resolution (LR) MR images and achieve an arbitrary up-sampling rate for HR image reconstruction with implicit representation.
- **Multiview Deformation for Dynamic Human Reconstruction** *2018.12-2020.5*
  - Proposed a multi-view 3D human reconstruction technique with pose estimation, semantic segmentation and silhouette based mesh deformation, specifically targets at handling challenging cases such as texture-less appearance and heavy occlusions.
- **Mobile virtual fitting for e-commerce** *2018.6-2019.12*
  - Presented a fully automatic method for real time mobile 3D cloth fitting with non-rigid mesh deformation.
- **AutoSweep: Recovering 3D Editable Objects from a Single Photograph** *2017.6-2017.12*
  - Proposed a fully automatic framework for extracting editable 3D objects with semantic parts directly from a single photograph.
- **SweepCanvas: Sketch-based 3D Prototyping on an RGB-D Image** *2016.7-2017.4*
  - Presented a sketch-based interactive tool to quickly produce conceptual 3D models atop an RGB-D image.

SKILLS

- Language: Chinese (Native), Englisth (Competent)
- Programming and Software: Python, PyTorch, C/C++, C#, MATLAB, LaTex, CUDA, Blender

AWARDS & HONORS

ShanghaiTech University - Academic Scholarship 2016-2020
Shanghai University - Outstanding Graduate 2016
Shanghai University - Excellent Student 2014
Shanghai University - First Class Scholarship 2012-2015