XIN CHEN

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RESEARCH INTERESTS

- **Computer Vision**   Human Performance Capture
                               Deep Learning
- **Computer Graphics**   Image-based Modeling

EDUCATION

Ph.D student, Computer Science	GPA: 3.54/4.0	2018-Present
		ShanghaiTech University
Master student, Computer Science	-	2016-2018
		ShanghaiTech University
B.Sc, Electronic Information Science	GPA: 3.75/4.0 Rank: 1/172	2016
		Qingdao University of Technology

EXPERIENCE

R&D Intern	Jul. 2018 to present
DGene Digital Technology Inc. – Shanghai, China	
Summer Software Intern	Jul. 2015 to Sep. 2015
Shanghai Raxtone Software Co.,Ltd. – Shanghai, China	

PUBLICATIONS

- AutoSweep: Recovering 3D Editable Objects from a Single Photograph.
  Xin Chen, Yuwei Li, Xi Luo, Tianjia Shao, Jingyi Yu, Kun Zhou, Youyi Zheng
  IEEE Transactions on Visualization and Computer Graphics (**TVCG 2018**) [WebPage | Paper]

- Sparse Photometric 3D Face Reconstruction Guided by Morphable Models.
  Xuan Cao, Zhang Chen, Anpei Chen, Xin Chen, Shiying Li, Jingyi Yu
  IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2018**)

- Pose2Body: Pose-Guided Human Parts Segmentation.
  Xin Chen*, Zhong Li*, Wangyiteng Zhou,Yingliang Zhang, Jingyi Yu
  IEEE Conference on Multimedia and Expo (**ICME 2019 Oral**)

- Multiview Deformation for Dynamic Human Reconstruction.
  Xi Luo, Yuwei Li, Yu Zhu, Xin Chen, YingLiang Zhang, Shi Jin, Haoxin Li, Jingyi Yu
  Arxiv 2019

- TightCap: 3D Human Shape Capture with Clothing Tightness.
  Xin Chen, Anqi Pang, Wei Yang, Lan Xu, Jingyi Yu
  Arxiv 2019

AWARDS

Outstanding Student Leader of University of Chinese of Academy of Sciences.	2018
National Encouragement Scholarship.	2016
Provincial Government Scholarship.	2015
Second Prize in National Undergraduate Electronics Design Contest.	2015
Second Prize in China Mathematical Contest in Modeling.	2014
Third Prize in National Biomedical Electronics Innovation Contest.	2014
Province-level Merit Student.	2013

Projects

- **Human Performance Capture with Dome System**   Feb. 2019 to Present
  Research Project. The major project for whole lab. Using more than 80 cameras to construct a dome system for multi-view stereo reconstruction. My work focuses on human 3D pose estimation and parametric body fitting. More relevant works are **Openpose** and SMPL.
  Lead the reconstruction project, 1000 clips dataset. Aim to build a large number of dynamic 3D mesh sequences in dance, boxing, yoga, instrumental performance, etc.

- **Human Body Shape Recover and 3D Cloth Segmentation**   Dec. 2018 to Apr. 2019
  Research Project. A learning-based scheme for estimating clothing fitness and human shape on clothed 3D human scans based on **GAN**. Extend the **parametric human model** and **none-rigid deformation** for alignment.
  Propose a dataset of body shape and various clothing. This work can help human/clothing segmentation and virtual clothes fitting. As the first author, submit to **ICCV 2019**(Top vision conference).

- **Mobile Virtual Fitting**   Jul. 2018 to Nov. 2018
  R&D Project. Work as an R&D intern at DGene lnc. and **won the Best Outstanding Intern Award in 2018** for leading this project. A single-view human body estimation and virtual fitting on **Android**. Based on the front-facing RGBD camera(ToF). Self-design Linear Blend Skinning(LBS) body model. Real-time clothing fitting.

- **Dynamic 3D Mesh Player**   Feb. 2018 to Present
  Software Development. Stand-alone development work for free-view browsing on 4D scans. This software builds with **Unity3D** and **Meshlab**, containing features like 3D mesh rendering, free-angle viewpoint change, Poisson Surface Reconstruction, etc.. Still continuously update.

- **3D Objects Recover from a single photograph**   Aug. 2017 to Aug. 2018
  Research Project. A fully automatic framework for extracting editable 3D objects from a single photograph. Combination with learning-based and graphics method: For the learning part, an instance semantic part segmentation for cylinder profile, cuboid profile, cylinder body, etc. For the graphics part, sweep-based object modeling with axis extraction. **Unity** for visualization, Mxnet for the network. Related works are **FCIS** from MSRA, **MaskRCN**.
  Propose an instance segmentation dataset, including 11657 images with cubes and cylinders. As the first author, accepted by **TVCG 2018**(Top graphic journals).

- **Gesture Interaction in Virtual Reality**   Dec. 2016 to Jun. 2017
  R&D Project. A two-hand gesture controller for objects manipulation in VR. **Leap Motion**, **HTC Vive** for hardware support.

Technical Skills

Programming Languages	C++ (OpenGL, OpenCV, Qt, Eigen, PCL, CUDA ...)
	C#
	Python (Pytorch, Tensorflow, Mxnet)
Softwares	Visual Studio, Pycharm, Jupyter Notebook, Android Studio
	Matlab
	Unity3D, Blender
	Adobe Photoshop, Premiere
Others	Latex, Markdown
	Leap Motion, HTC Vive

References

Prof. Jingyi Yu	Supervisor	ShanghaiTech University	yujingyi@@shanghaitech.edu.cn
Dr. Youyi Zheng	Former Supervisor	Zhejiang University	youyi.zheng@zju.edu.cn