

SHICHEN LIU

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EDUCATION

University of Southern California

Ph.D. of Computer Science

· **Adviser:** Prof. Hao Li, Randall Hill, Yajie Zhao

Sep 2018 - Present

Computer Science Department

Tsinghua University, Beijing China

Bachelor of Engineering

· **Adviser:** Prof. Mingsheng Long

Sep 2014 - Jun 2018

School of Software

RESEARCH INTERESTS

- Supervised geometric deep learning: *Fast and accurate* geometry inference with learned neural optimizers.
- Bridging computer vision and computer graphics: self-supervised 3D reconstruction, differentiable rendering for mesh, point cloud, and implicit surfaces.
- Transfer Learning: domain adaptation, cross-modal learning and semi-supervised learning.

PUBLICATIONS

- **Shichen Liu**, Yunxuan Cai, Haiwei Chen, Yichao Zhou, Yajie Zhao. “Rapid Face Asset Acquisition with Recurrent Feature Alignment”. *SIGGRAPH ASIA*, 2022
- Haiwei Chen, Jiayi Liu, Weikai Chen, **Shichen Liu**, Yajie Zhao. “Exemplar-based Pattern Synthesis with Implicit Periodic Field Network”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022
- **Shichen Liu**, Yichao Zhou, Yajie Zhao. “VaPiD: A Rapid Vanishing Point Detector via Learned Optimizers”. *IEEE International Conference on Computer Vision (ICCV)*, 2021
- Tianye Li, **Shichen Liu**, Timo Bolkart, Jiayi Liu, Hao Li, Yajie Zhao. “Topologically Consistent Multi-View Face Inference Using Volumetric Sampling”. *IEEE International Conference on Computer Vision (ICCV)*, 2021, **Oral presentation**
- Haiwei Chen, **Shichen Liu**, Weikai Chen, Hao Li. “Equivariant Point Network for 3D Point Cloud Analysis”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
- Yichao Zhou, **Shichen Liu**, Yi Ma. “NeRD: Neural 3D Reflection Symmetry Detector”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
- **Shichen Liu**, Shunsuke Saito, Weikai Chen, Hao Li. “Learning to infer implicit surfaces without 3D supervision”. *Neural Information Processing Systems (NeurIPS)*, 2019
- **Shichen Liu**, Tianye Li, Weikai Chen, Hao Li. “Soft Rasterizer: A Differentiable Renderer for Image-based 3D Reasoning”. *The IEEE International Conference on Computer Vision (ICCV)*, 2019, **Oral presentation**
- **Shichen Liu**, Mingsheng Long, Jianmin Wang, Michael I. Jordan. “Generalized Zero-Shot Learning with Deep Calibration Network”. *Neural Information Processing Systems (NeurIPS)*, 2018
- Gao Huang*, **Shichen Liu*** (* equal contribution), Laurens van der Maaten, Kilian Weinberger. “CondenseNet: An Efficient DenseNet using Learned Group Convolutions”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018, **Spotlight presentation**
- Yue Cao, Mingsheng Long, **Shichen Liu**, Jianmin Wang. “Deep Visual-Semantic Quantization for Efficient Image Retrieval”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017
- Yue Cao, Mingsheng Long, **Shichen Liu**, Jianmin Wang. “Collective Deep Quantization for Efficient Cross-Modal Retrieval”. *AAAI Conference on Artificial Intelligence (AAAI)*, 2017

EXPERIENCE

Nvidia | Research Intern

Advisor: Simon Yuen, Dr. Koki Nagano, and Dr. Jaewoo Seo

· Face reconstruction from in-the-wild images.

May 2022 - Aug 2022

Facebook Reality Lab | Research Intern

Advisor: Dr. Tony Tung and Dr. Yuanlu Xu

· Dynamic fusion for human body capture.

May 2021 - Aug 2021

Bytedance | Research Intern

Advisor: Dr. Linjie Luo

· Scene reconstruction from multi-view.

May 2019 - Aug 2019

- University of Southern California** | Research Assistant Aug 2018 - Present
Advisor: Professor Hao Li, Randall Hill, Yajie Zhao, and Dr. Weikai Chen
 · Differentiable rendering, 3D reconstruction, accelerating geometric deep learning.
- Cornell University** | Summer Research Intern Jun 2017 - Oct 2017
Advisor: Professor Kilian Q. Weinberger and Dr. Gao Huang
 · Network architecture design.
- Microsoft Asia** | Research Intern Sep 2017 - Apr 2018
Advisor: Dr. Jingdong Wang and Chunyan Liu
 · Object detection in videos.
- Tsinghua University** | Research Assistant Jan 2016 - Sep 2018
Advisor: Professor Mingsheng Long and Dr. Yue Cao
 · Domain adaptation and zero-shot learning.
- Sogou Corporation** | Browser Developer Intern Jun 2015 - Sep 2015
 · Led a team of 4 members to implement Chinese optical character recognition algorithms based on CNNs.

AWARDS

- Tsinghua University Scholarship 2017
- Sensetime Scholarship 2017
- Qualcomm Scholarship 2016
- Tsinghua Technology Innovation Scholarship 2016
- Tsinghua Technology Innovation Scholarship 2015
- First Prize in National Olympiad in Information Province (NOIP) Competition, Beijing 2012

SKILLS

- Programming Language: Python, C/C++/CUDA, Matlab, Haskell, Lisp and JavaScript
- Deep Learning Platform: PyTorch, Caffe, Torch, TensorFlow and MXNet