SHICHEN LIU

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EDUCATION

University of Southern California 2020 - Present
Ph.D. of Computer Science *Computer Science Department*
· **Adviser**: Prof. Randall Hill

University of Southern California Sep 2018 - 2020
Ph.D. of Computer Science *Computer Science Department*
· **Adviser**: Prof. Hao Li

Tsinghua University, Beijing China Sep 2014 - Jun 2018
Bachelor of Engineering *School of Software*
· **Adviser**: Prof. Mingsheng Long

RESEARCH INTERESTS

- Accelerating geometric deep learning with first-order methods (learning to optimize).
- Bridging Computer Vision and Computer Graphics: self-supervised 3D reconstruction, differentiable rendering, point cloud and implicit surfaces.
- Transfer Learning: domain adaptation, cross-modal learning and semi-supervised learning.

PUBLICATIONS

· **Shichen Liu**, Yichao Zhou, Yajie Zhao. "VaPiD: A Rapid Vanishing Point Detector via Learned Optimizers". *IEEE International Conference on Computer Vision (**ICCV**)*, 2021, **Oral presentation**

· 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

· 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

Facebook Reality Lab | Research Intern May 2021 - Oct 2021
Advisor: Dr. Tony Tung
· Dynamic fusion for human body capture.

University of Southern California | Research Assistant Aug 2018 - Present
Advisor: Professor Hao Li
· Differentiable rendering, 3D reconstruction, accelerating geometric deep learning.

Cornell University | Summer Research Intern Jun 2017 - Oct 2017
Advisor: Professor Kilian Q. Weinberger
· Network architecture design.

Microsoft Asia | Research Intern Sep 2017 - Apr 2018
Advisor: Jingdong Wang and Chunyan Liu
· Object detection in videos.

Tsinghua University | Research Assistant Jan 2016 - Sep 2018
Advisor: Professor Mingsheng Long
· 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 of National Olympiad in Information Province Competition, Beijing 2012

SKILLS

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