Tianye Li

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https://tianyeli.github.io/

Education

01/2016 – present **Ph.D. Computer Science**.
University of Southern California
Focus: Computer Vision and Computer Graphics
Advisor: Prof. Hao Li and Prof. Randall Hill

08/2013 – 05/2015 **M.S. Electrical Engineering**, *honor program*.
University of Southern California, *GPA 3.89/4.00*
Focus: Signal and Image Processing (Computer Vision and Machine Learning)

08/2009 – 07/2013 **B.Eng. Electronic and Information Engineering**.
Xidian University, Xi'an, China, *GPA 87.5/100*
Focus: Signal Processing

Publication

ArXiv 2021 **Neural 3D Video Synthesis**,
Tianye Li*, Mira Slavcheva*, Michael Zollhoefer, Simon Green, Christoph Lassner, Changil Kim, Tanner Schmidt, Steven Lovegrove, Michael Goesele, and Zhaoyang Lv (*equal contributions),
ArXiv preprint, 03/2021.

TPAMI 2020 **A General Differentiable Mesh Renderer for Image-based 3D Reasoning**,
Shichen Liu, Tianye Li, Weikai Chen, and Hao Li,
IEEE Transactions on Pattern Analysis and Machine Intelligence, 07/2020.

ICCV 2019 (oral presentation) **Soft Rasterizer: A Differentiable Renderer for Image-based 3D Reasoning**,
Shichen Liu, Tianye Li, Weikai Chen, and Hao Li,
Proceedings of the IEEE International Conference on Computer Vision, 10/2019.

ICCV 2019 (oral presentation) **Learning Perspective Undistortion of Portraits**,
Yajie Zhao*, Zeng Huang*, Tianye Li, Weikai Chen, Chloe LeGendre, Xinglei Ren, Jun Xing, Ari Shapiro, and Hao Li (*equal contributions),
Proceedings of the IEEE International Conference on Computer Vision, 10/2019.

ECCV 2018 **Deep Volumetric Video from Very Sparse Multi-View Performance Capture**,
Zeng Huang, Tianye Li, Weikai Chen, Yajie Zhao, Jun Xing, Chloe LeGendre, Linjie Luo, Chongyang Ma, and Hao Li,
Proceedings of the 15th European Conference on Computer Vision, 09/2018.

SIGGRAPH Asia 2017 **Learning a Model of Facial Shape and Expression from 4D Scans**,
Tianye Li*, Timo Bolkart*, Michael J. Black, Hao Li, and Javier Romero (*equal contributions),
ACM Transactions on Graphics, Proceedings of the 10th ACM SIGGRAPH Conference and Exhibition in Asia, 11/2017.

ECCV 2016 **Real-Time Facial Segmentation and Performance Capture from RGB Input**,
Shunsuke Saito, Tianye Li, and Hao Li,
Proceedings of the 14th European Conference on Computer Vision, 10/2016.

Technical Experience

08/2017 – present **Research Assistant**, *USC Institute for Creative Technologies*.
- Researched on rasterization-based differentiable rendering for image-based 3D reasoning.
- Researched on perspective undistortion method for portraits.
- Researched on sparse-view 3D volumetric reconstruction for full-body performance capture.

10/2015 – present **Research Assistant**, *University of Southern California*.
- Built multi-view performance capture system using GoPros and Kinect cameras.
- Developed convolutional network for real-time facial segmentation and performance capture.
- Captured RGBD dataset for evaluating dense human body correspondence algorithm.
- Developed active appearance model for single-view dense face tracking.

06/2020 – 01/2021 **Research Intern**, *Facebook Reality Labs*.
- Researched on dynamic neural radiance field for high-quality 3D video synthesis.

05/2018 – 08/2018 **Research Intern**, *Snap Inc.*
- Researched on single-view 3D reconstruction for general objects.

09/2016 – 06/2017 **Research Intern**, *Max Planck Institute for Intelligent Systems*.
- Researched on expressive yet light-weight generic model for facial shape, expression and pose.
- Researched on high-quality (geometrically accurate and semantically / temporally consistent) mesh registration for large 4D facial scan datasets ($> 10^5$ meshes).

08/2015 – 10/2015 **Image Tech Research Engineer**, *Dolby Laboratories*.
- Developed applications and features that ease the creative process for next generation cinema.
- Provided documentation and guidance for new applications and features.

02/2015 – 08/2015 **Image Processing Intern**, *Dolby Laboratories*.
- Developed innovative image/video processing and video coding algorithms.
- Documented and presented new algorithms and implementations in various forms.

07/2012 – 08/2012 **Intern**, *Open Laboratory and Solution Center, Agilent Technologies*.
- Assisted customers with microwave and telecommunication instrument calibration.
- Experimented on standard microwave components and documented standard procedures.

Teaching Experience

2018 – 2019 **Teaching Assistant**, *University of Southern California*.
- Advanced Computer Vision (CSCI 677), Fall 2019. Instructor: Prof. Ram Nevatia.
- Digital Geometry Processing (CSCI 621), Spring 2018. Instructor: Prof. Hao Li.

2015 **Grader**, *University of Southern California*.
- Mathematical Pattern Recognition (EE 559), Spring 2015. Instructor: Prof. Keith Jenkins.

Academic Talk

2017 **Learning a Model of Facial Shape and Expression from 4D Scans**.
- ACM SIGGRAPH Conference and Exhibition in Asia, 11/2017
- Graphics and Mixed Environment Webinar, 12/2017

Professional Activities

Reviewer CVPR (2020, 2021), ICCV (2019, 2021), ECCV (2020), TPAMI (2021), IJCV (2020), NeurIPS (2020), AAAI (2020), VRST (2020), Eurographics (2019), Pacific Graphics (2018), CAVW (2018), ICCV Workshop PeopleCap (2017), IEEE VR (2017)

Honors

2020 IEEE CVPR Outstanding Reviewer

2015 Electrical engineering master honor program, University of Southern California

2010-2012 University scholarship, Xidian University

Skills

Programming C/C++, Python, MATLAB; OpenCV, PyTorch, Caffe, TensorFlow

Devices	Kinect (v1 and v2), Intel RealSense, PrimeSense
Electronics	Signal generator, oscilloscopes, signal/network analyzer, soldering, circuits debugging
Languages	Mandarin Chinese (native), English (fluent), German (basic)

Last update: March 5, 2021