

Fengting Yang

CONTACT INFORMATION	311 Airport Blvd., Meta Reality Lab Burlingame, CA, 94010, USA	fuy34bkup@gmail.com https://fuy34.github.io/
EDUCATION	The Pennsylvania State University Ph.D. in Information Sciences and Technology - Research Interests: <i>3D Computer Vision</i> and <i>Deep Learning</i> - Dissertation: <i>Geometry Inspired Deep Neural Networks for 3D Reconstruction</i> - Advisor: Dr. Sharon Huang and Dr. Zihan Zhou	08/2017 - 05/2022 GPA: 3.88/4.00
	Tianjin University M.E. in Instrument Science and Technology - Advisor: Dr. Bin Wu	09/2014 - 01/2017 GPA: 89.19/100
	B.E. in Measuring and Controlling Technology and Instruments - GPA: 3.75/4.00	09/2010 - 06/2014
SELECTED PROJECTS	Integrating Geometric Prior into Deep 3D Vision Tasks Advisor: Dr. Sharon Huang and Dr. Zihan Zhou <ul style="list-style-type: none">Introduced plane prior-induced training loss for simultaneous plane segmentation and parameter estimation in the <i>single-view 3D reconstruction</i>.Proposed a CNN-based <i>superpixel segmentation</i> method and applied it for <i>stereo matching</i> application.Designed a novel <i>depth-from-focus</i> network to estimate depth from focal stacks.Developed an deep learning pipeline for 3D plane detection and reconstruction from posed monocular videoProposed an indoor prior inspired <i>multi-view stereo</i> method	08/2017 - Present
	Non-Orthogonal 3D Measurement Instruments Advisor: Dr. Bin Wu <ul style="list-style-type: none">Designed two non-orthogonal instruments for large scale 3D measurement.Developed the measurement principle and the hardware/software of the systems.	09/2014 - 06/2017
PROFESSIONAL EXPERIENCE	Meta Applied Research Scientist <ul style="list-style-type: none">Eye tracking for XR.	06/2022 - present <i>Burlingame, CA</i>
	Amazon Applied Scientist Intern <ul style="list-style-type: none">Projects related to 3D data processing, 3D reconstruction, floor layout estimation, and multi-camera pose estimation.	05/2021 - 08/2021 <i>Remote</i>
	Amazon Applied Scientist Intern <ul style="list-style-type: none">Wrote software for a novel camera device and collected data with it.Explored multiple depth estimation methods for various inputs and cues, and delivered the model ahead of the deadline.	05/2020 - 08/2020 <i>Greater Boston Area, MA</i>

- The final model outperformed the baseline by 32% and exceed the targeted accuracy by 21% in terms of RMSE.
- Advised the team on how to apply the proposed technologies to Amazon's physical shopping products.

ByteDance (TikTok)

Research Intern

05/2019 - 08/2019

Palo Alto, CA

- Developed a single-view plane recovery model that learned segmentation and parameter estimation for an arbitrary number of planes with only depth supervision.
- The final model improved the plane parameter accuracy by 27% compared to the baseline with the same plane number.

PUBLICATIONS

1. **Fengting Yang**, Xiaolei Huang, and Zihan Zhou. "Deep Depth from Focus with Differential Focus Volume." *CVPR*. 2022.
2. Yiming Xie, Matheus Gadelha, **Fengting Yang**, Xiaowei Zhou, and Huaizu Jiang. "PlanarRecon: Real-time 3D Plane Detection and Reconstruction from Posed Monocular Videos." *CVPR*. 2022.
3. **Fengting Yang**, Qian Sun, Hailin Jin, and Zihan Zhou. "Superpixel Segmentation with Fully Convolutional Networks." *CVPR*. 2020.
4. **Fengting Yang** and Zihan Zhou. "Recovering 3D Planes from a Single Image via Convolutional Neural Networks." *ECCV*. 2018.
5. **Fengting Yang**, Bin Wu, Ting Xue, Mohammed F. Ahmed and Jie Huang. "A Cost-effective Non-orthogonal 3D Measurement System." *Measurement* (2018), 128, pp.264-270.
6. Bin Wu, You Xu, **Fengting Yang**, Chunqiang Qian, and Bei Cai. "3D Coordinate Measuring System Based on Laser Tracking Absolute Length Measurement Multilateral Method." *Infra. and Laser Eng.* 47. 8 (2018): 0806007. (In Chinese)
7. Bin Wu, Wen Ding, **Fengting Yang**, and Ting Xue. "The Error Analysis of the Non-Orthogonal Total Station Coordinate Measurement System." *Acta. Metrologica Sinica.*, 38. 6 (2017): 661-666. (In Chinese)
8. Bin Wu, **Fengting Yang**, Wen Ding, and Ting Xue. "A Novel Calibration Method for Non-orthogonal Shaft Laser Theodolite Measurement System." *Review of Scientific Instruments* 87. 3 (2016): 035102.
9. Jinjiang Wang, Tianyu Chang, Baozhen Ge, Qingguo Tian, **Fengting Yang**, and Shendong Shi. "The Research on Calibration Methods of Dual-CCD Laser Three-dimensional Human Face Scanning System." *ISPDI 2013*, 2013:890535.

PATENTS

1. Ting Xue, Bin Wu, and **Fengting Yang**. "An Inverse Kinematic Model for Non-orthogonal Shafting Laser Theodolites." China Invention Patent, ZL 201610949270, Mar. 2019
2. Bin Wu, Ting Xue, and **Fengting Yang**. "A Non-orthogonal Shafting Laser Total Station Based 3D Coordinate Measurement Method." China Invention Patent, ZL 201610915794, May. 2019

TEACHING
EXPERIENCE

DS340 - Applied Data Science

Teaching Assistant

08/2020 - 12/2020

Penn State, PA

Principle of Automatic Control

Teaching Assistant

09/2015 - 02/2016

Tianjin University, China

PC MEMBER

AAAI Conference on Artificial Intelligence (AAAI) 2023

REVIEWER

Journals:

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Multimedia (TMM)
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- Computer Vision and Image Understanding (CVIU)
- IEEE Transactions on Artificial Intelligence (TAI)

Conferences:

- IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR) 2022
- European Conference on Computer Vision (ECCV) 2022
- AAAI Conference on Artificial Intelligence (AAAI) 2023
- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2022
- International Conference on 3D Vision (3DV) 2022

SKILLS

Python, MATLAB, PyTorch, TensorFlow