XIAOMENG XU

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EDUCATION

Stanford University 09/2023-now
PhD Student in Electrical Engineering

Tsinghua University 08/2019-06/2023
Bachelor of Engineering in Automation, Bachelor of Arts in Product Design
GPA: 3.96/4.00, **Rank:** 1/21

PUBLICATIONS

1. **Xiaomeng Xu***, Yanchao Yang*, Kaichun Mo, Boxiao Pan, Li Yi, Leonidas Guibas, *JacobiNeRF: NeRF Shaping with Mutual Information Gradients.* CVPR 2023. [Paper]

2. **Xiaomeng Xu***, Yun Liu*, Weihang Chen, Haocheng Yuan, He Wang, Jing Xu, Rui Chen, Li Yi, *Enhancing Generalizable 6D Pose Tracking of an In-Hand Object with Tactile Sensing.* [arXiv]

3. Xueyi Liu, **Xiaomeng Xu**, Anyi Rao, Chuang Gan, Li Yi, *AutoGPart: Intermediate Supervision Search for Generalizable 3D Part Segmentation.* CVPR 2022. [Paper]

4. Guanhong Liu, Tianyu Yu, Zhihao Yao, Haiqing Xu, Yunyi Zhang, Xuhai Xu, **Xiaomeng Xu**, Mingyue Gao, Qirui Sun, Tingliang Zhang, Haipeng Mi, *ViviPaint: Creating Dynamic Painting with a Thermochromic Toolkit.* MTI 2022. [Paper]

* authors with equal contribution

RESEARCH EXPERIENCES

Hand-Deformable Object Interaction Capturing 02/2023-now
3D Vision, Graphics *Supervisor: Prof. Li Yi, Tsinghua University*

· Proposed a novel hardware system and annotation algorithm that enable the capture of high-quality hand-deformable object interaction data.

NeRF Shaping with Mutual Information Gradients 06/2022-11/2022
3D Vision, Machine Learning *Supervisor: Prof. Leonidas Guibas, Stanford University*

· Chinese Undergraduate Visiting Research Program (UGVR)
· Proposed shaping a NeRF to encode mutual correlations of a scene via aligning jacobians. And demonstrated applications in label propagation for semantic and instance segmentation.

Enhancing 6D Pose Tracking of an In-Hand Object with Tactile Sensing 12/2021-09/2022
3D Vision, Robotics *Supervisor: Prof. Li Yi, Tsinghua University*

· Presented a tactile-enhanced 6D pose tracking framework to track previously unseen in-hand objects.

Generalizable 3D Part Segmentation 09/2021-11/2021
3D Vision, Machine Learning *Supervisor: Prof. Li Yi, Tsinghua University*

· Proposed a generic method that improves the generalizability of 3D part segmentation networks by searching for optimal supervisions automatically.

Thermochromic Toolkit for Creating Dynamic Painting 10/2020-04/2021
Human Computer Interaction *Supervisor: Prof. Haipeng Mi, Tsinghua University*

· Presented a toolkit consisting of a design tool and a set of hardware components that assists artists and enthusiasts in creating thermochromic paintings.

AWARDS

Outstanding Graduate of Tsinghua University (Awarded to top 2% Tsinghua graduates)	06/2023
Outstanding Graduate of Beijing (Awarded to top 5% Beijing graduates)	06/2023
Academic Contribution Award (Awarded to graduates with academic achievements, top 5%)	06/2023
Comprehensive Excellence Award (Scholarship awarded by Tsinghua University, top 5%)	10/2022
National Scholarship (Highest scholarship awarded by Chinese Government, top 0.1%)	10/2021
129 Scholarship (Highest scholarship for sophomores in Tsinghua University, top 1%)	10/2020
Innovation Award of Science and Technology (Awarded to undergraduates with excellent research potentials, top 5%)	10/2020-2022

EXTRACURRICULAR ACTIVITIES

Drop-in Tutoring   10/2020-10/2022
Tutoring volunteer for engineering drawing, programming, electric circuits, physics, calculus, etc.

Siyuan Leadership Program   10/2020-now
A leadership program that selects the top 1% Tsinghua undergraduates, emphasizing the cultivation of social practice abilities and international perspectives.

LANGUAGE SKILLS

TOEFL iBT	111/120 (Reading 29, Listening 29, Speaking 25, Writing 28)
IELTS	8.0/9.0 (Reading 9.0, Listening 9.0, Speaking 7.0, Writing 7.5)

TECHNICAL SKILLS

Computer Languages	Python, C/C++, MATLAB, Verilog/VHDL
Software	SolidWorks, AutoCAD, Rhino, Qt Creator, Multisim, Quartus
Hardware	3D Printing, FPGA, Microcontroller, mechanical design, woodcraft
Tools	PyTorch, ROS, Git, Linux, LaTeX