Ruyi Lian

Curriculum Vitae

Department of Computer Science, Stony Brook University
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Education

Aug 2019 - Present	**Stony Brook University**, *Stony Brook, NY, USA.* Ph.D. in Computer Science, GPA: 4.0/4.0 Advisor: Prof. Haibin Ling
Aug 2015 - Jun 2019	**University of Science and Technology of China (USTC)**, *Hefei, Anhui, China.* B.S. in Applied Mathematics, GPA: 3.71/4.3 Advisor: Prof. Ligang Liu Thesis: *Light Transport Algorithms for Photorealistic Rendering*

Research Interests

Computer Vision, Computer Graphics, Computational Photography, Robotics

Publications

Ruyi Lian, Bingyao Huang, Liguo Wang, Qun Liu, Yuewei Lin, and Haibin Ling. *"End-to-end orientation estimation from 2D cryo-EM images."* Acta Crystallographica Section D: Structural Biology 78, no. 2 (2022).

Bingyao Huang, **Ruyi Lian**, Dimitris Samaras, and Haibin Ling. *"Modeling Deep Learning Based Privacy Attacks on Physical Mail."* Proceedings of the AAAI Conference on Artificial Intelligence, 2021.

Projects

Jun 2021 - Present	**Assistive Robot Arm**, *Stony Brook University.* Advisor: Prof. Haibin Ling, Prof. Nilanjan Chakraborty, Prof. I. V. Ramakrishnan Currently working on object pose estimation from RGBD images
Jan 2021 - Dec 2021	**Orientation estimation from cryo-EM images**, *Stony Brook University.* Advisor: Prof. Haibin Ling, Dr. Liguo Wang, Dr. Qun Liu, Dr. Yuewei Lin Proposed end-to-end supervised learning method to recover missing orientations Designed robust training objective for asymmetric and symmetric 3D structures Currently under revision
Jun 2020 - Dec 2020	**Temporal Consistent Projector Compensation**, *Stony Brook University.* Advisor: Prof. Haibin Ling Proposed recurrent compensation network and temporal consistent loss function Collected various video frame sequences for training and evaluation
Jan 2020 - Jun 2020	**Imaging Through Scattering Media**, *Stony Brook University.* Advisor: Prof. Haibin Ling Collaborated to reconstruct hidden objects from images captured by digital camera Collected real and synthetic datasets Paper Accepted by AAAI 2021
Sep 2017 - Dec 2018	**Computer-aided Digital Sculpting System**, *USTC.* Advisor: Prof. Ligang Liu Designed system for automatic operation sequence generation Proposed deep reinforcement learning based method for efficient training
Mar 2017 - May 2017	**Two-player Virtual Reality Game**, *USTC.* Advisor: Prof. Ligang Liu

Realized recognition of hand gestures using Leap Motion in Unity
Presented to public during Science and Technology Week of USTC

Teaching Experience

Aug 2019 - May 2020	**Teaching Assistant**, *Stony Brook University*.
	CSE 215, Foundations of Computer Science, Spring 2020
	CSE 303, Introduction to the Theory of Computation, Fall 2019
Sep 2018 - Jun 2019	**Undergraduate Teaching assistant**, *USTC*.
	Foundations of Algorithms, Spring 2019
	Single Variable Calculus, Fall 2018

Honors and Awards

2018	Third Prize of Scholarship, USTC
2017	Leadership Scholarship, USTC
2016	First Prize of Electromagnetic Paper Competition, USTC
2016	Second Prize of Scholarship, USTC
2015	Outstanding Freshman Scholarship, USTC

Services

Sep 2020 - Present	Organizer of computer vision seminar in CS department, SBU

Skills

Programming	Python, C/C++, MATLAB, LaTeX
Software	Blender, Mathematica, Unity, cryoSPARC, RELION
Other	Painting (https://www.instagram.com/ruyi.lian.art)