

# Ruyi Lian

## Curriculum Vitae

Department of Computer Science, Stony Brook University  
Stony Brook, NY 11794  
☎ (631) 202-9985  
✉ [rulian@cs.stonybrook.edu](mailto:rulian@cs.stonybrook.edu)  
📄 [ruiyilian.github.io](https://github.com/ruyilian)

### 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, Ligu 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. Ligu 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  
Paper Accepted by *Acta Crystallographica Section D: Structural Biology*
- 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>)