

# SHELDON SHIQIAN LIANG

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## EDUCATION

**Peking University**, Beijing, China  
BS in Computer Science and Technology

2020.09 — 2024.07  
Overall GPA: 3.77/4.0 — Rank: 25/144

## RESEARCH EXPERIENCE

**Stanford University Geometric Computation Group**  
*Student Intern on Denoising Diffusion for Pixel Tracking*

Palo Alto, CA  
2023.07 - Present

- Modeled pixel tracking as a generative task, to generate accurate pixel trajectories given a video clip and a target pixel.
- Devised, implemented, and trained a conditional diffusion model conditioned on local feature similarity scores for denoising pixel trajectories.
- Achieved 47% position accuracy on Tapvid-DAVIS dataset.
- Advised by Prof. Leonidas Guibas, Dr. Adam Harley, and Prof. Jeong Joon Park.

**Peking University Hyperplane Lab**  
*Research Assistant on Generalizable Gripper 6D Pose Estimation*

Beijing, China  
2022.07 - Present

- Generated synthetic dataset with domain randomization using Blender.
- Implemented gripper keypoint detection module to assist pose estimation.
- Conducted baseline experiments on state-of-the-art category-level pose estimation methods.
- Achieved 15% higher mAP on a 5°2cm error threshold than previous methods on synthetic dataset.
- Preparing for submission to IROS2024.
- Advised by Prof. Hao Dong.

## COURSE PROJECTS

**Dynamic NeRF with Depth Supervision | Algorithm Design and Analysis**

Spring 2022

- Built a Neural Radiance Field with time dimension to reconstruct dynamic scenes from a monocular video.
- Added depth supervision using sparse 3D points from the structure-from-motion process to constrain the geometry of the reconstructed dynamic scene.

**Sketch Style Transfer with Adaptive Instance Normalization | Introduction to AI**

Spring 2021

- Developed an improved AdaIN style transfer algorithm specialized in generating sketch-style images.
- Applied HED edge detection and designed edge loss for training decoder to preserve edges of the content image better.

## AWARDS AND HONORS

- |   |                         |
|---|-------------------------|
| • Research Excellence Award                 | Peking University, 2023 |
| • Tianqi Scholarship                        | Peking University, 2023 |
| • Merit Student Award                       | Peking University, 2022 |
| • Peking University Third Prize Scholarship | Peking University, 2022 |
| • Academic Excellence Award                 | Peking University, 2021 |

## SKILLS AND LANGUAGES

- Skills:** C/C++, Python, PyTorch, Blender
- Languages:** English (native), Chinese (native)