Boxiang Rong

borong@ethz.ch · (+86) 137-0819-3269 · boxiang-rong

EDUCATION

ETH Zurich, Swizerland *Sep 2022 – Jun 2024(expected)*

Master of Robotics, System and Control
Courses: Computer Graphics(GPA: 5.5/6.0), Computer Vision(GPA: 5.5/6.0), Shape Modeling and Geometry Processing, Digital Humans, 3D Vision, Vision Algorithm for Mobile Robotics.

Tianjin University, China *Sep 2018 – Jun 2022*

Bachelor of Communication Enigneering
Major GPA: **3.92**/4.0 (92.9/100), Best Rank: **1/139**(5^{th} semester), Total Rank: 9/139

GROUP PROJECTS

ETHZ 2022 Rendering Competition – using our own renderer *Sep 2022 – Dec 2022*

2-member team | Lecturer: **Prof. Markus Gross**(ETH Zurich), **Dr. Marios Papas**(Disney Research)

Build our own renderer on Nori codebase (Report | selected for Oral Presentation)

- Implemented Multi-Importance Sampling, Path Tracing and Photon Mapping .etc, for basic rendering
- Implemented functions for final project rendering, including Environment Map, Disney BSDF, Procedural Volume, Texture Mapping and Low-Discrepancy Sampling
- Built mesh scene in Blender, and load in Nori for final rendering

Motion Matching for Responsive Animation for Digital Humans *Apr 2023 – Jun 2023*

4-member team | Lecturer: **Prof. Stelian Coros**, **Prof. Siyu Tang**, ETH Zurich

Build Motion Matching algorithm from stratch with multiple means of input(Report | Demos | Code)

- Customized dataloader for **LaFan1 dataset**, and constructed 2d and 3d feature base for all frames of motions, making it possible to match behaviors like jumping and creeping.
- Build **spring damper** system to generate smooth trajectory, in response to keyboard and painting-based control. Then use Nearest Neighbor to find next motion.
- Achieved **real-time human pose control**: tracking human pose with FastPose, classifying input poses with KNN, which will then be transformed into keyboard commands.

Head-Worn Camera Image Stabilization using Neural Radiance Field *Feb 2023 – Jun 2023*

4-member team | Lecturer: **Prof. Marc Pollefeys**, **Dr. Daniel Barath**, ETH Zurich

Stablize Motion Blur with Mesh and Nerf-based room reconstructions (Report | Demos | Code1 | Code2)

- Build mesh reconstruction pipeline with Open3d, including aligning depth to RGB images, Point-Cloud reconstruction and stitching, Poisson surface reconstruction, and Color Map Optimization
- Modified Deblur Nerf to load our dataset and add trajectory information to better model blurry patterns

INTERNSHIPS

- **Shanghai Qizhi AI Lab** – Research Assistant *Feb 2022 – Jul 2022*

SKILLS AND AWARDS

Programming: C++ == Python > Matlab
Software: Blender, Unity, Photoshop, Premiere Pro
Language: Chinese(native), English(professional, TOEFL111(Speaking:25, Writing:27)), Japanese(elementary)
Awards:

- Tianjin University Merit Student Scholarship *2019 & 2020 & 2021*
- Tianjin University Outstanding Student Honor (for top 2% students in the grade) *Dec 2020*