Ziqi Lu

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EDUCATION

Double Major in Math and Physics & Civil Engineering and Systems September 2021 - Now
Tsinghua University

GPA: 3.68/4.00 (**Math & Physics GPA:** 3.79/4.00)
TOEFL: 100
Courses Taken: Numerical Analysis, Probability and Stochastic Processes, High Performance Computing, Computer Systems, Fundamentals of Computer Graphics, Artificial Intelligence, Digital Design and Embedded System, Quantum Mechanics, Mathematical Physics Equations

SKILLS AND INTERESTS

Interests	Rendering (both PBR & NPR) , Simulation, 3D Scene Reconstruction
	Psysically-based Motion Generation/Capture, AR/VR/MR Equipments
Skills	**Language:** C/C++/CUDA, Python with ML Libraries
	Familiar with: Embedded System, blender, photographing

RESEARCH EXPERIENCES

Enhancement on State-of-the-Art Differentiable Rendering Pipeline September 2023 - Now
Research Intern Advised by Prof. Shi-Min Hu and Tai-Jiang Mu
· Focus on long-term and accurate optimization of differentiable rendering.

PROJECTS

Micropt: Distributed Path Tracing and Stochastic Progressive Photon Mapping June 2023
Major Project as a part of **Fundamentals of Computer Graphics**
· A renderer implementing classic physically based rendering algorithms and modern features.
· Designed to be combatible with current PBR pipeline performed by artists, also with parameterized geometry.
· Optimized and accelerated using OpenMP (multi-thread computing) , BVH and importance sampling.

Embedded Rotaeno: A Rhythm Game Developed on Mobile System April 2022 - June 2022
Major Project as a part of **Digital Design and Embedded System**
· An integrated game developed on ARM-v3 with support to multiple I/O devices.
· High performance low-level graphic user interface and OLED screen driver with real-time response to gamer actions.
· Original design of gaming patterns catering to the hardware design (Rotate the device with gyroscope sensor).

ACHIEVEMENTS

Award on the National Mathematics Competition, Professional Track	*Spring 2022*
Top 0.05% of Zhejiang Province in the National College Entrance Exam (CEE)	*Summer 2021*
Tsinghua University Institutional Scholarship on Social Work	*Spring 2022,2023*
Tsinghua University Institutional Scholarship Cultural and Artistic Work	*Spring 2022*
Fellow of Tsinghua University Technology Support Organization	*Spring 2022 - Present*
3D Animator and Digital Artist	*2020 - Present*
Mod Developer for Cyberpunk 2077	*September 2023 - Present*