

Libing Zeng (曾立兵)

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<http://libingzeng.github.io>

RESEARCH

I'm interested in all topics about physically based rendering. My current research mainly focus on light transport simulation, especially MLT-type rendering algorithms.

EDUCATION

Hunan Univ., P.R. China

2007.09—2011.06

Bachelor in Electronic Information Engineering

Top 10% GPA (score 85.0/100); Top 1% B.S. Thesis Award

Projects (2016.11 ~)

A Remedy for Proposal Failures in Metropolis Light Transport

Advised by [Dr. Li-Yi Wei](#).

Submitted to SIGGRAPH 2019.

The high percentage of the paths used to reconstruct the final image that carries zero radiance is a big problem for MLT-type algorithms building on bidirectional path tracing. The root cause is the failure of obtaining a complete mutation light path. We propose a novel algorithm which provides special remedy for those failures.

A Renderer Written from the Scratch (BART animations)

Advised by [Dr. Li-Yi Wei](#).

This renderer mainly has two components. First, parsing animation description files (AFF); Second, rendering the three animations of BART, which is presented by Dr. Ulf Assarsson.

Some key implementations: "Multi-Jittered" sampler + "Gaussian" filter for reconstruction + Mipmap + EWA filter for texture anti-aliasing.

A Renderer Extended from The Book, Ray Tracing from the Ground Up

Self learning.

I read the book and extended it from the following aspects: various objects, tessellations, 2D textures and several scenes.

A Renderer with Implementations of Various NON-TRIANGULATE Surfaces

Self learning.

This render is based on the framework of Peter Shirley's "ray tracing in one weekend" and is extended with tracing almost all of the NON-TRIANGULATE surfaces mentioned in the book, An Introduction to Ray Tracing.

OPEN SOURCE

Github

<https://github.com/libingzeng>

Blog

https://blog.csdn.net/libing_zeng

I summarized every topic I learned, every problem I solved and every verifiable idea I had in the journey of computer graphics, and I posted more than 200 technical reports of the summaries on my blog (written in simplified Chinese) which has over 230 followers and over 0.4 million visitors now.

WORK EXPERIENCE

Guo-Yuan-Li Fruit Store (startup)

2014.06 – 2016.02

“Guo-Yuan-Li” is Chinese pinyin which means fresh fruit in orchard.

I started the fruit business, and got everything working well, then transferred it to my younger brother.

MediaTek

2011.09 – 2014.05

Engineer, customer project leader

Lead projects and develop embeded system applications with C language.

BACHELOR THESIS

The Design and Development of Experiment Teaching Management System

2011

Advised by [Dr. Shaoyuan Wang](#)

Top 1% B.S. Thesis Award

I designed a novel experiment teaching management system and implemented it with J2EE.

AWARDS

Innovation of Graduation Project, Hunan Univ., P.R. China

2011

The First Prize. (top 1% in the class of 2011)

National Inspirational Scholarship, Ministry of Education, P.R. China

2010

(top 5% in the class of 2011)

National Univerity Students Intelligent Car Race, Ministry of Education, P.R. China

2010

The First Prize in Southern China (Top 10 in more than one hundred teams.)

I developed the software on embedded system with C language. The software controls a car model to run very fast along a challenging path.