

# Libing Zeng

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<http://libingzeng.github.io>

## RESEARCH

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My current research topics are related to computational photography and deep learning. Prior to this, I have worked on video denoising using deep neural networks and a resulting paper should be coming soon.

## EDUCATION

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**Texas A&M University**  
Ph.D. in Computer Science

**2019.08 — Present**

**Hunan University**  
Bachelor in Electronic Information Engineering

**2007.09 — 2011.06**

## PROJECTS (Prior to Ph.D.)

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### **Rectifying Proposal Failures in Metropolis Light Transport**

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

Preprint (HAL).

Based on MMLT, we propose a novel algorithm, Proposal Failure MLT (PFMLT), which distinguishes proposal failure paths from normal proposed paths and excludes them from the states of Markov chain.

### **A Renderer Written from the Scratch (BART Animations with High-Frequency Textures)**

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-study.

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-study.

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.

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## OPEN SOURCE

### **Github**

<https://github.com/libingzeng>

### **Blog**

[https://blog.csdn.net/libing\\_zeng](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 460 followers and over 0.73 million visitors now (updated by 08/30/2019).

## WORK EXPERIENCE

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### **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 embedded system applications with C language.

## UNDERGRADUATE THESIS

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### **The Design and Development of Experiment Teaching Management System**

**2011**

Advised by [Dr. Shaoyuan Wang](#)

Top 1% Thesis Award

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

## AWARDS

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### **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 University 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.