Libing Zeng

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RESEARCH

My current research is to solve view synthesis problems using deep learning. Prior to this, I have worked on video de-noising using deep neural networks and a resulting paper should be coming soon.

EDUCATION

Texas A&M University   **2019.08－Present**
Ph.D. in Computer Science

Hunan University   **2007.09－2011.06**
Bachelor in Electronic Information Engineering

PROJECTS (Prior to Ph.D.)

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.

OPEN SOURCE

Github
https://github.com/libingzeng

Blog

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

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

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

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.

Programming Languages

Python, C++, C