YIHENG ZHANG

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EDUCATION

B.S.E. in Computer Science and Technology (ZY Honors Program of Engineering)   Sept. 2015 - Jun. 2019
School of Electronic Information and Electrical Engineering & Zhiyuan College
Shanghai Jiao Tong University, Shanghai, China
Overall GPA: 3.94/4.3, Rank: 9/142

Exchange Undergraduate   Jun. 2017 - Jul. 2017
School of Engineering
University of Melbourne, Victoria, Australia
Course Grade: First Class Honours

RESEARCH EXPERIENCE

Lab of Digital Media and Computer Vision (DMCV)   Feb. 2017 - Present
Shanghai Jiao Tong University, Shanghai, China
Advisor: Lizhuang Ma (Distinguished Professor)
Research Topic: path tracing, deep learning, rendering denoise etc.

WORKING EXPERIENCE

Graphics Game Software Engineer Intern   Sept. 2018 - Mar. 2019
Visual Computing Enabling, Intel APAC R&D, Shanghai, China

· Game engine parallel rendering optimization and hardware interface module C++ development
· DirectX 11/12 threaded rendering development with Intel TBB and Microsoft WTP
· Created a public demo on UE4 to demonstrate the VCE group's improved parallel rendering

PUBLICATIONS

Light Transport Simulation via Generalized Multiple Importance Sampling   Apr. 2018
*Qi Liu, **Yiheng Zhang**, Lizhuang Ma - CVM 2018 Oral*

· A generalized multiple importance sampling in path tracing
· Improved the efficiency of vertex connecting and merging algorithm by about 20%

SELECTED PROJECTS

Progressive Multiple Network Rendering Denoise   Apr. 2018 - Present
DMCV Individual Research (ongoing)

· A CNN-based offline rendering denoise network system with noise pixel prediction and few-shot training

Interactive Object Selection Based on U-Net   Oct. 2017 - Jan. 2018
Computer Graphics Course Group Project (top 1%)

· An open-source deep learning solution for interactive object selection
· Increased accuracy by 15.91% on salient object compared with *Deep Interactive Object Selection (CVPR 2016)*.

Simple Path Tracer   Nov. 2017
Computer Graphics Course Individual Project (top 1%)

· Scene built and core algorithm implemented by myself, mathematical utilities courtesy: SmallVCM
· Specular, diffuse, refraction and Phong are included

Isochart-based Auto Geometry Mesh Cutting and UV Alignment   Apr. 2017 - Jun. 2017
DMCV Project

· An interactive approach to generate UV alignment of object mesh charts
· Responsible for testing and optimizing the mesh texture coordinate processing part

HONORS

SCSK Scholarship (top 6%)   Oct. 2018
SCSK Corporation

Zhiyuan Honor Scholarship   Dec. 2017
Zhiyuan College, Shanghai Jiao Tong University

Wish Scholarship (top 3%)   Sept. 2017
Wish Ltd.

Meritorious Winner   Jan. 2017
MCM/ICM Mathematical Contest in Modeling

Zhiyuan Honor Scholarship   Dec. 2016
Zhiyuan College, Shanghai Jiao Tong University

Tung OOCL Scholarship Scholarship (top 6%)   Oct. 2016
The Tung Foundation & Orient Overseas Container Line Ltd.

EXTRA-CIRRUCULAR

President   Sept. 2017 - Sept. 2018
SJTU Band Union

· Head director of SJTU Soulrocker rock shows and ROLL rock shows
· Assistant director of SJTU Oasis music festivals
· Contributed to a audio technology instruction website

Vice Director of Department of Publicity   May 2016 - Sept. 2017
Student Union of SEIEE

· Responsible for publicity work of events held by SEIEE (School of Electronic Information and Electrical Engineering)
· Hold monthly workshop to give talks of new trends in graphic design

Hobbies

· Guitarist/composer/mix engineer on a metal band - Square Torpedo
· Calligraphy grade 8 (max 10, China Calligrapher Association)
· 9 years experience in painting & 5 years experience in graphic design

SKILLS

Programming	C++/C(primary), Python(good), Matlab(good), SQL(limited), D3D11(limited), JS(entry level)
Technology	Ray Tracing, Deep Learning, Real-time Rendering
Software	Microsoft Office, Visio; Adobe Photoshop, Illustrator, Premiere; Maya