

Daqi Lin

GRADUATE STUDENT · COMPUTER GRAPHICS RESEARCHER · SOFTWARE ENGINEER

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Education

Master of Science (Thesis) in Computer Science (Expected in May 2019)

THE UNIVERSITY OF UTAH

- Graphics and visualization track. Research area: GPU algorithms, high performance interactive rendering.

Salt Lake City, USA

Aug. 2017 -

Bachelor of Computing (Honors with Highest Distinction)

NATIONAL UNIVERSITY OF SINGAPORE

- Computer Science Program, School of Computing (Specialization: Visual Computing)

Singapore

Aug. 2013 - Jun. 2017

Experience

Teaching Assistant

SCHOOL OF COMPUTING, UNIVERSITY OF UTAH

- Teaching assistant of CS6610 - Interactive Computer Graphics - a graduate course

Salt Lake City, USA

Jan. 2018 -

Research Assistant

REALISTIC COMPUTER GRAPHICS GROUP, UNIVERSITY OF UTAH

- Working on an interactive global illumination project (aiming at SIGGRAPH) under supervision of Dr. Cem Yuksel.

Salt Lake City, USA

Sep. 2017 -

Research Assistant

GRAPHICS LAB, XIAMEN UNIVERSITY

- Helped to boost the performance of a 3D printing optimization algorithm (finding the minimal support volume of arbitrarily oriented 3D meshes) developed by the group - by adapting the algorithm for multiple processors, making it 6x faster.

Xiamen, China

Jun. 2017

Undergraduate Student Researcher

NATIONAL UNIVERSITY OF SINGAPORE

- Developed a highly efficient GPU path tracer under supervision of Dr. Kok-Lim Low, which is 30% faster than NVIDIA's Optix engine (using the Cornell Box benchmark).
- Investigated on software architectures to improve ray tracing efficiency on commercial GPUs.
- Exploited CUDA framework to design new algorithms for efficient parallel kd-tree construction on GPU. Yielded 5x faster speed than traditional CPU kd-tree construction algorithm on high-end graphics cards.

Singapore

May. 2016 - May. 2017

Android Developer

MASSIF STUDIO

- Built an e-commerce Android mobile application for Yamato Transport, mainly used Spring Framework for Java.

Singapore

May. 2016 - Oct. 2016

Graphics R&D Engineer Intern

HONG WEI GLOBAL

- Developed a light-weight physically based rendering tool for developing games on OpenGL-ES2, which was used for 3D training simulation systems for government agencies including the Singapore Civil Defence Force.
- Solved a lighting quality problem by redesigning the arrangement of prefiltered cube-environmental mipmap.
- Invented a novel approximation method of subsurface scattering as the solution for fast skin rendering.
- Extended functionality of Godot - an open source game engine, including subsurface scattering and depth of field. Collaborate with other software engineering team members to make the game engine more efficient.

Singapore

May. 2015 - Nov. 2015

Web Programmer

NEXTGEN TECHNOLOGY (STARTUP IN NUS)

- Responsible for Google Map integration into a web-based mobile application for restaurant recommendation. Designed the map user interface to help users find nearby recommended restaurants more easily.
- Wrote PHP codes for database retrieval.

Singapore

Sep. 2014 - Nov. 2014

Specialized Skills

AN EXPERIENCED PROGRAMMER AND TECH GEEK

- Strong mathematics, physics, and computer science foundation
- Specializing in computer graphics research and development
- Programming languages: highly proficient in C++, Python; proficient in Java.
- Web development: HTML/CSS/JavaScript, PHP, MySQL and Android development
- Experience in deep learning with TensorFlow framework
- Experience in solving numerical optimization problem with MATLAB/SciPy.
- GUI development: WIN32 API, Qt (with C++ and QML), Java Swing
- Graphics and Parallel Programming: CUDA, OpenCL, OpenGL 4, Direct3D 11
- 3D modeling & rigging & game engine: Maya, Blender, Unity, Unreal Engine
- Multimedia Editing: Adobe Premiere, Photoshop, Flash, Audition
- Music mixing & recording & arrangement : Ableton Live, Fruity Loops

Leadership & Service

Sound Engineer

GEYAO(BALLAD) MUSIC INTEREST GROUP, NUS CHINESE SOCIETY

Singapore

Aug. 2013 - Apr. 2017

- Responsible for recording, mixing, and music arrangement

Music Arranger

“MOOD SOLVENT” SINGAPORE/MALAYSIA POP SONG COMPOSITION COMPETITION

Singapore

Feb 2013, Feb. 2015

- Entered finals in 2013 and 2015's competition

Volunteer

SERVICE COMMUNITY SERVICE PROGRAM, MINISTRY OF EDUCATION

Singapore

Sep. 2012 - Nov. 2012

- Helped teaching physically and mentally challenged children in Mountbatten Vocational School

Honors & Awards

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|------|--|---|-----------------|
| 2017 | Juror & Student Choice Awards | University of Utah Teapot Rendering Competition | Salt Lake City, |
| | Best In Class Award | (http://graphics.cs.utah.edu/trc/) | USA |
| | | • Created a ray tracing method to produce crescent-shaped shadows of tree leaves under solar eclipse. | |
| 2016 | Best Project In Class | CS4243 Computer Vision, Sem 1, Year 16/17, School of Computing, NUS | Singapore |
| | | • Obtained the most accurate result in tracking the motion of players and the ball from a beach volleyball video. | |
| 2015 | Dean's List Award | Semester 2, Year 14/15, School of Computing, NUS | Singapore |
| | | • Awarded only to top 5% students in the cohort. | |
| 2013 | Silver Prize | Orbital Program, held by School of Computing, NUS | Singapore |
| | | • Designed an Online Karaoke platform which can perform real-time pitch shifting and human voice removal, using a Flash applet (karagodktv.appspot.com) | |