

# Daqi Lin

GRADUATE STUDENT · COMPUTER GRAPHICS RESEARCHER · SOFTWARE ENGINEER

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## Education

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### Master of Science in Computer Science

THE UNIVERSITY OF UTAH

- Focusing on computer graphics research

*Utah, USA*

*Aug. 2017 -*

### Bachelor of Computing (Honors with Highest Distinction)

NATIONAL UNIVERSITY OF SINGAPORE

- Computer Science Program, School of Computing (Focus area: Visual Computing)
- Developed a real-time GPU path tracer in the final year project and found a new method of building surface area heuristic determined kd-tree on GPU which gains a 5x speedup over traditional CPU method on high-end graphic cards.

*Singapore*

*Aug. 2013 - Jun. 2017*

## Experience

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### Research Assistant

GRAPHICS LAB, XIAMEN UNIVERSITY

- Developed optimization methods for 3d printing algorithms: Parallelization of calculation of minimal support volume of arbitrarily oriented 3D meshes.

*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.
- Exploited CUDA framework to design new algorithms for efficient kd-tree and bvh construction and mutation on GPU.

*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.
- Also responsible for part of the GUI design.

*Singapore*

*May. 2016 - Oct. 2016*

### Graphics R&D Engineer Intern

HONG WEI GLOBAL

- Developed a physically based rendering tool for game engines based on OpenGL for 3D gaming and simulation systems for government agencies including the Singapore Civil Defence Force
- Solved glossy lighting quality problem by redesign 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 - the 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)

- Solved Google Map Integration problem of a web-based mobile application
- Improved user interface, wrote PHP codes for database retrieval

*Singapore*

*Sep. 2014 - Nov. 2014*

## Specialized Skills

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AN EXPERIENCED PROGRAMMER AND TECH GEEK

- Strong mathematics, physics, and computer science foundation
- Specialized knowledge in computer graphics and image processing
- Programming languages: Very proficient in C++, Java, Python
- Full stack web development: HTML/CSS/JS, PHP, MySQL and Android application development
- Graphic and Parallel Programming: CUDA, OpenCL, OpenGL, Direct3D, OpenCV
- Game engine & 3D modeling & Multimedia Editing: Blender, Maya, Adobe Premier, Photoshop, Flash, Audition

## Leadership & Service

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### Contestant

Singapore

ORBITAL PROGRAM, HELD BY SCHOOL OF COMPUTING, NUS

May 2014 - Aug. 2014

- Designed an Online Karaoke platform which can perform real-time pitch shifting and human voice removal, using a Flash applet (karagodktv.appspot.com)

### Sound Engineer

Singapore

GEYAO(BALLAD) MUSIC INTEREST GROUP, NUS CHINESE SOCIETY

Aug. 2013 - Apr. 2017

- Responsible for recording, mixing, and music arrangement

### Music Arranger

Singapore

"MOOD SOLVENT" SINGAPORE/MALAYSIA POP SONG COMPOSITION COMPETITION

Feb 2013, Feb. 2015

- entered finals in 2013 and 2015's competition

### Member

Singapore

SERVICE COMMUNITY SERVICE PROGRAM, MINISTRY OF EDUCATION

Sep. 2012 - Nov. 2012

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

## Honors & Awards

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2015 **Dean's List Award**, Semester 2, Year 14/15, School of Computing, NUS

Singapore

2013 **Silver Prize**, Orbital Program, held by School of Computing, NUS

Singapore