

Cheng Zhang

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Education

University of California, Irvine

PH.D. IN COMPUTER SCIENCE

- Supervisor: Prof. Shuang Zhao

Irvine, CA

September 2017 – July 2022

Columbia University in the City of New York

M.S. IN COMPUTER SCIENCE

- GPA: 3.967/4.0

New York, NY

September 2015 – February 2017

Beijing University of Technology

B.E. IN ELECTRONICS INFORMATION ENGINEERING

- GPA: 3.74/4.0
- Exchange student at **University of Illinois at Chicago** (senior year)

Beijing, China

September 2011 – June 2015

Publications

EFFICIENT DIFFERENTIATION OF PIXEL RECONSTRUCTION FILTERS FOR PATH-SPACE DIFFERENTIABLE RENDERING

Zihan Yu, **Cheng Zhang**, Derek Nowrouzezahrai, Zhao Dong, Shuang Zhao

ACM Transactions on Graphics (SIGGRAPH Asia 2022), 41(6)

ANTITHETIC SAMPLING FOR MONTE CARLO DIFFERENTIABLE RENDERING

Cheng Zhang, Zhao Dong, Michael Doggett, Shuang Zhao

ACM Transactions on Graphics (SIGGRAPH 2021), 40(4)

PATH-SPACE DIFFERENTIABLE RENDERING OF PARTICIPATING MEDIA

Cheng Zhang*, Zihan Yu*, Shuang Zhao (*equal contribution)

ACM Transactions on Graphics (SIGGRAPH 2021), 40(4)

PATH-SPACE DIFFERENTIABLE RENDERING

Cheng Zhang, Bailey Miller, Kai Yan, Ioannis Gkioulekas, Shuang Zhao

ACM Transactions on Graphics (SIGGRAPH 2020), 39(4)

MULTI-SCALE APPEARANCE MODELING OF GRANULAR MATERIALS WITH CONTINUOUSLY VARYING GRAIN PROPERTIES

Cheng Zhang, Shuang Zhao

Eurographics Symposium on Rendering (EGSR), 2020

A DIFFERENTIAL THEORY OF RADIATIVE TRANSFER

Cheng Zhang, Lifan Wu, Changxi Zheng, Ioannis Gkioulekas, Ravi Ramamoorthi, Shuang Zhao

ACM Transactions on Graphics (SIGGRAPH Asia 2019), 38(6)

FontCode: Embedding Information in Text Documents Using Glyph Perturbation

Chang Xiao, **Cheng Zhang**, Changxi Zheng

ACM Transactions on Graphics (SIGGRAPH 2018), 37(2)

Patents

SYSTEMS AND METHODS FOR STEGANOGRAPHY BASED ON TEXT FONTS

Changxi Zheng, Chang Xiao, **Cheng Zhang**

US Patent 10,755,375

METHOD AND DEVICE FOR EFFICIENT BUILDING FOOTPRINT DETERMINATION

Lincan Zou, Liu Ren, Zeng Dai, **Cheng Zhang**

US Patent 10,553,025

Employment

Meta Reality Labs

RESEARCH SCIENTIST

Redmond, WA

July 2022 - Present

- Topic: Computer graphics research (e.g., differentiable rendering, inverse rendering)

NVIDIA Corporation

APPLIED DEEP LEARNING RESEARCH (ADLR) GROUP: RESEARCH INTERN

Remote

June 2021 - November 2021

- Topic: Differentiable rendering on GPU

Facebook Reality Labs

GRAPHICS GROUP: RESEARCH INTERN

Redmond, WA

June 2019 - September 2019

- Topic: 3D reconstruction, differentiable rendering

Robert Bosch LLC

HMI GROUP: MOTION CAPTURE AND RECOGNITION INTERN

Sunnyvale, CA

June 2018 - September 2018

- Topic: Automatic cycle detection and similarity evaluation of time series data

Robert Bosch LLC

HMI GROUP: GRAPHICS RESEARCH INTERN

Palo Alto, CA

May 2017 - August 2017

- Topic: Building footprints determination for real-time shadow generation

Columbia University

COMPUTER GRAPHICS GROUP: GRADUATE RESEARCH ASSISTANT

New York, NY

June 2016 - April 2017

- Topic: Text editing, information embedding

Reviewer

2023	Nature Scientific Reports
2022	ACM SIGGRAPH
2021	ACM SIGGRAPH, Computer Graphics Forum
2020	ACM SIGGRAPH Asia

Honors & Awards

2021	Facebook Fellowship	Worldwide
2013	Beichuan Academic Scholarship	Beijing University of Technology
2011-2014	Academic Excellence Award	Beijing University of Technology

Skills

Programming

C, C++, Python, Matlab, T_EX

Software and Applications

Mitsuba, PyTorch, Unity3D, Blender