Cheng Zhang

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Education

University of California, Irvine *Irvine, CA*

PH.D. IN COMPUTER SCIENCE *September 2017 – July 2022*

- Supervisor: Prof. Shuang Zhao

Columbia University in the City of New York *New York, NY*

M.S. IN COMPUTER SCIENCE *September 2015 – February 2017*

- GPA: 3.967/4.0

Beijing University of Technology *Beijing, China*

B.E. IN ELECTRONICS INFORMATION ENGINEERING *September 2011 – June 2015*

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

Publications

ANTITHETIC SAMPLING FOR MONTE CARLO DIFFERENTIABLE RENDERING

Cheng Zhang, Zhao Dong, Michael Doggett, Shuang Zhao

*ACM Transactions on Graphics (**SIGGRAPH 2020**), 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 Transctions on Graphics (**SIGGRAPH Asia 2019**), 38(6)*

FONTCODE: EMBEDDING INFORMATION IN TEXT DOCUMENTS USING GLYPH PERTURBATION

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

*ACM Transctions 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   *Redmond, WA*
Research Scientist   *July 2022 - Present*
- Topic: Computer graphics research (e.g., differentiable rendering, inverse rendering)

NVIDIA Corporation   *Remote*
Applied Deep Learning Research (ADLR) Group: Research intern   *June 2021 - November 2021*
- Topic: Differentiable rendering on GPU

Facebook Reality Labs   *Redmond, WA*
Graphics Group: Research intern   *June 2019 - September 2019*
- Topic: 3D reconstruction, differentiable rendering

Robert Bosch LLC   *Sunnyvale, CA*
HMI Group: Motion Capture and Recognition intern   *June 2018 - September 2018*
- Topic: Automatic cycle detection and similarity evaluation of time series data

Robert Bosch LLC   *Palo Alto, CA*
HMI Group: Graphics Research intern   *May 2017 - August 2017*
- Topic: Building footprints determination for real-time shadow generation

Columbia University   *New York, NY*
Computer Graphics Group: Graduate Research Assistant   *June 2016 - April 2017*
- Topic: Text editing, information embedding

Reviewer

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, $\TeX$

Software and Applications — Mitsuba, PyTorch, Unity3D, Blender