

Wenzheng Chen

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SHORT BIO

I am a tenure-track Assistant Professor at [Wangxuan Institute of Computer Technology](#), [Peking University](#), where I mainly work on Computational Photography and 3D Vision. More specifically, I explore how to utilize various imaging systems to perceive the 3D world. My ultimate goal is to develop accurate and affordable 3D imaging techniques accessible to everyone.

EDUCATION

2017-2023, Ph.D. of Computer Science, University of Toronto.
Supervised by Prof. [Sanja Fidler](#) and Prof. [Kyros Kutulakos](#).

2014-2017, Master of Computer Science, Shandong University.
Supervised by Prof. [Changhe Tu](#).

2010-2014, Bachelor of Computer Science, Taishan College, Shandong University.

EMPLOYMENT

2024-present, tenure-track Assistant Professor, [Peking University](#).
Research Interest: Computational Photography, 3D Vision.

2020-2024, Research Scientist, NVIDIA.
Manager: Prof. [Sanja Fidler](#)

PUBLICATION

* denotes equal contribution, # denotes corresponding author.

Journal Papers

5. Tianchang Shen, Jacob Munkberg, Jon Hasselgren, Kangxue Yin, Zian Wang, **Wenzheng Chen**, Zan Gojcic, Sanja Fidler, Nicholas Sharp[#], Jun Gao[#]. Flexible Isosurface Extraction for Gradient-Based Mesh Optimization. ACM Transactions on Graphics (Proc. **SIGGRAPH**), 2023. **Oral, CCF-A**
4. **Wenzheng Chen***, Fangyin Wei*, Kyros Kutulakos, Szymon Rusinkiewicz, Felix Heide. Learned Feature Embeddings for Non-Line-of-Sight Imaging and

- Recognition. ACM Transactions on Graphics (Proc. **SIGGRAPH Asia**), 2020. **Oral, CCF-A**
3. 陶建华, 杨明浩, 王志良, 班晓娟, 解仑, 汪云海, 曾琼, 王飞, 王红迁, 刘斌, 韩志帅, 潘航, 陈文拯. 无菌条件非接触式多通道自然交互手术环境. **软件学报**, 30(10):2986-3004, 2019. **CCF-A**
 2. Qiong Zeng, **Wenzheng Chen**, Huan Wang, Changhe Tu, Daniel Cohen-Or, Dani Lischinski, Baoquan Chen. Hallucinating Stereoscopy from a Single Image. Computer Graphics Forum (Proc. **Eurographics**), 2015. **Oral**
 1. 王斌, 陈文拯, 钟凡, 屠长河, 秦学英, 彭群生. 基于时空测地线传播的 RGB-D 视频分割. **计算机辅助设计与图形学学报**, 27(10):1816-1822, 2015. **CCF-A**

Conference Papers

21. Yuanxing Duan*, Fangyin Wei*, Qiyu Dai, Yuhang He, **Wenzheng Chen**[#], Baoquan Chen[#]. 4D-Rotor Gaussian Splatting: Towards Efficient Novel View Synthesis for Dynamic Scenes. Proc. **SIGGRAPH**, 2024. **CCF-A**
20. Parsa Mirdehghan, Maxx Wu, **Wenzheng Chen**, David B Lindell, Kyros Kutulakos. TurboSL: Dense Accurate and Fast 3D by Neural Inverse Structured Light. **CVPR**, 2024. **CCF-A**
19. Sizhuo Ma, Jian Wang, **Wenzheng Chen**, Suman Banerjee, Mohit Gupta, Shree Nayar. QfaR: Location-Guided Scanning of Visual Codes from Long Distances. **MobiCom**, 2023. **Oral, CCF-A**
18. Tzofi Klinghoffer, Jonah Philion, **Wenzheng Chen**, Or Litany, Zan Gojcic, Jungseock Joo, Ramesh Raskar, Sanja Fidler, Jose M Alvarez. Towards Viewpoint Robustness in Bird's Eye View Segmentation. **ICCV**, 2023. **CCF-A**
17. Zian Wang, Tianchang Shen, Jun Gao, Shengyu Huang, Jacob Munkberg, Jon Hasselgren, Zan Gojcic, **Wenzheng Chen**, Sanja Fidler. Neural fields meet explicit geometric representations for inverse rendering of urban scenes. **CVPR**, 2023. **CCF-A**
16. Taotao Zhou, Kai He, Di Wu, Teng Xu, Qixuan Zhang, Kuixiang Shao, **Wenzheng Chen**, Lan Xu, Jingyi Yu. Relightable neural human assets from multi-view gradient illuminations. **CVPR**, 2023. **CCF-A**
15. Suyi Jiang, Haoran Jiang, Ziyu Wang, Haimin Luo, **Wenzheng Chen**, Lan Xu. Humangen: Generating human radiance fields with explicit priors. **CVPR**, 2023. **CCF-A**
14. Jun Gao, Tianchang Shen, Zian Wang, **Wenzheng Chen**, Kangxue Yin, Daiqing Li, Or Litany, Zan Gojcic, Sanja Fidler. Get3d: A generative model of high quality 3d textured shapes learned from images. **NeurIPS**, 2022. **Spotlight, CCF-A**

13. Zian Wang, **Wenzheng Chen**, David Acuna, Jan Kautz, Sanja Fidler. Neural light field estimation for street scenes with differentiable virtual object insertion. **ECCV**, 2022.
12. Rahul Gulve, Navid Sarhangnejad, Gairik Dutta, Motasem Sakr, Don Nguyen, Roberto Rangel, **Wenzheng Chen**, Zhengfan Xia, Mian Wei, Nikita Gusev, Esther YH Lin, Xiaonong Sun, Leo Hanxu, Nikola Katic, Ameer Abdelhadi, Andreas Moshovos, Kiriakos N Kutulakos, Roman Genov. A 39,000 Subexposures/s CMOS image sensor with dual-tap coded-exposure data-memory pixel for adaptive single-shot computational imaging. **VLSI Technology and Circuits**, 2022
11. Jacob Munkberg, Jon Hasselgren, Tianchang Shen, Jun Gao, **Wenzheng Chen**, Alex Evans, Thomas Müller, Sanja Fidler. Extracting triangular 3d models, materials, and lighting from images. **CVPR**, 2022. **Oral, CCF-A**
10. **Wenzheng Chen**, Joey Litalien, Jun Gao, Zian Wang, Clement Fuji Tsang, Sameh Khamis, Or Litany, Sanja Fidler. DIB-R++: learning to predict lighting and material with a hybrid differentiable renderer. **NeurIPS**, 2021. **CCF-A**
9. Yuxuan Zhang*, **Wenzheng Chen***, Jun Gao, Huan Ling, Yinan Zhang, Antonio Torralba Sanja Fidler. Image gans meet differentiable rendering for inverse graphics and interpretable 3d neural rendering. **ICLR**, 2021. **Oral, CCF-A**
8. **Wenzheng Chen***, Parsa Mirdehghan*, Sanja Fidler, Kyros Kutulakos. Auto-tuning structured light by optical stochastic gradient descent. **CVPR**, 2020. **CCF-A**
7. Jun Gao, **Wenzheng Chen**, Tommy Xiang, Alec Jacobson, Morgan Mcguire, Sanja Fidler. Learning deformable tetrahedral meshes for 3d reconstruction. **NeurIPS**, 2020. **CCF-A**
6. **Wenzheng Chen**, Jun Gao*, Huan Ling*, Edward J. Smith*, Jaakko Lehtinen, Alec Jacobson, Sanja Fidler. Learning to predict 3d objects with an interpolation-based differentiable renderer. **NeurIPS**, 2019. **CCF-A**
5. **Wenzheng Chen**, Simon Daneau, Fahim Mannan, Felix Heide. Steady-state non-line-of-sight imaging. **CVPR**, 2019. **Oral, CCF-A**
4. Huan Ling*, Jun Gao*, Amlan Kar, **Wenzheng Chen**, Sanja Fidler. Fast interactive object annotation with curve-gcn. **CVPR**, 2019. **CCF-A**
3. Parsa Mirdehghan, **Wenzheng Chen**, Kyros Kutulakos. Optimal structured light a la carte. **CVPR**, 2018. **Spotlight, CCF-A**
2. Huayong Xu, Yangyan Li, **Wenzheng Chen**, Dani Lischinski, Daniel Cohen-Or, Baoquan Chen. A holistic approach for data-driven object cutout. **ACCV**, 2016.

1. **Wenzheng Chen**, Huan Wang, Yangyan Li, Hao Su, Zhenhua Wang, Changhe Tu, Dani Lischinski, Daniel Cohen-Or, Baoquan Chen. Synthesizing training images for boosting human 3d pose estimation. **3DV**, 2016. **Oral**
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PATENT

6. Carl Jacob Munkberg, Jon Niklas Theodor Hasselgren, Tianchang Shen, Jun Gao, **Wenzheng Chen**, Alex John Bauld Evans, Thomas Müller-Höhne, Sanja Fidler. Extracting triangular 3-D models, materials, and lighting from images. US Patent 11967024
 5. **Wenzheng Chen**, Joey Litalien, Jun Gao, Zian Wang, Clement Tse Tsian Christophe Louis Fuji, Sameh Khamis, Or Litany, Sanja Fidler. Hybrid differentiable rendering for light transport simulation systems and applications. US Patent 11922558
 4. **Wenzheng Chen**, Yuxuan Zhang, Sanja Fidler, Huan Ling, Jun Gao, Antonio Torralba Barriuso. Neural rendering for inverse graphics generation. US Patent 11494976
 3. Shree K. Nayar, Jian Wang, **Wenzheng Chen**. Long Distance QR Code Decoding. US Patent 11461924
 2. Kiriakos Neoklis Kutulakos, Seyed Parsa Mirdehghan, **Wenzheng Chen**. Method and system for optimizing depth imaging. US Patent 11341665
 1. Sanja Fidler, Amlan Kar, Huan Ling, Jun Gao, **Wenzheng Chen**, David Jesus Acuna Marrero. Systems and methods for polygon object annotation and a method of training and object annotation system. US Patent 10643130
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EXPERIENCE

2019.11-2020.08, Research Intern at NVIDIA. Working with Prof Sanja Fidler on differentiable renderer project. Research has been published in ICLR 2021.

2019.06-2019.09, Research Intern at Snap Research. Working with Prof. Shree Nayar and Dr. Jian Wang on Snapcode recognition project. Research has become a product and integrated in Snapchat APP.

2018.10-2019.05, Research Intern at NVIDIA. Working with Prof Sanja Fidler on differentiable renderer project. Research has been published in NeurIPS 2019.

2018.06-2018.09, Research Intern at Algolux. Working with Prof. Felix Heide on non-line-of-sight project. Research has been published in CVPR 2019.

SELECTED **Robert E. Lansdale/Okino Computer Graphics Graduate Fellowship**, 2021
ICCP Best Poster Award, 2021

HONORS **University of Toronto Fellowship**, 2017
First Prize of Excellent Student Scholarship, Shandong University, 2014

INVITED **Differentiating Imaging Systems for Boosting 3D Perception**

Microsoft Research Asia, May 2023, Tsinghua University, May 2023,

TALKS

Shandong University, Feb 2022, Carnegie Mellon University, Apr, 2021

Differentiable Imaging Systems ([Link](#))

Graphics And Mixed Environment Seminar (GAMES-CN), Mar, 2021

**Learning to Predict 3D Objects with an Interpolation-based Differentiable
Renderer**

Huawei, Oct, 2019

TEACHING **Guest Lecturer**

Introduction to Image Understanding, 2021-2023

Teaching Assistant

Introduction to Image Understanding, 2020-2022, Introduction to Visual Computing, 2020-2022,

Computer Graphics, 2018

ACADEMIC **Journal Reviewer**

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

SERVICES

International Journal of Computer Vision (IJCV)

IEEE Transactions on Visualization and Computer Graphics (TVCG)

IEEE Transactions on Neural Networks and Learning Systems (TNNLS)

Conference Reviewer

SIGGRAPH/SIGGRAPH Asia, CVPR/ICCV/ECCV, NeurIPS/ICLR/ICML

LINKS

[Personal Website](#), [Google Scholar](#), [DBLP](#), [LinkedIn](#)