

Shuhong Zheng

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EDUCATION

University of Toronto Ph.D. in Computer Science Supervisor: Prof. Igor Gilitschenski	Ontario, Canada Sept. 2024 – Present
University of Illinois Urbana-Champaign M.S. in Computer Science Supervisor: Prof. Yu-Xiong Wang	Illinois, U.S. Aug. 2022 – May 2024
Peking University B.S. in Computer Science Supervisor: Prof. Jiaying Liu	Beijing, China Aug. 2018 – June 2022

RESEARCH EXPERIENCE

University of Toronto Research Assistant with Prof. Igor Gilitschenski	Ontario, Canada Sept. 2024 – Present
Vector Institute Faculty Affiliate Researcher	Ontario, Canada Sept. 2024 – Present
University of Illinois Urbana-Champaign Research Assistant with Prof. Yu-Xiong Wang – Bridging generative and discriminative learning	Illinois, U.S. July 2021 – May 2024
MIT-IBM Watson AI Lab Visiting Student Researcher with Prof. Chuang Gan – 3D reasoning, embodied AI and large language models (LLM)	Massachusetts, U.S. Apr. 2023 – Oct. 2023
Peking University Research Assistant with Prof. Jiaying Liu – Computational photography and human motion topics	Beijing, China Oct. 2020 – July 2022

PUBLICATIONS/MANUSCRIPTS

- Shuhong Zheng**, Zhipeng Bao, Ruoyu Zhao, Martial Hebert, and Yu-Xiong Wang. SUNDiff: Bridging Generative and Discriminative Learning with Diffusion Models. In Submission to *International Conference on Learning Representations (ICLR)*, 2025.
- Yunze Man, **Shuhong Zheng**, Zhipeng Bao, Martial Hebert, Liang-Yan Gui, and Yu-Xiong Wang. Lexicon3D: Probing Visual Foundation Models for Complex 3D Scene Understanding. *Conference on Neural Information Processing Systems (NeurIPS)*, 2024.
- Shuhong Zheng***, Zhipeng Bao*, Martial Hebert, and Yu-Xiong Wang. Multi-task View Synthesis with Neural Radiance Fields. *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023.
Presented at the workshop on Generative Models for Computer Vision. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

4. Yining Hong, Haoyu Zhen, Peihao Chen, **Shuhong Zheng**, Yilun Du, Zhenfang Chen, and Chuang Gan. 3D-LLM: Injecting the 3D World into Large Language Models. *Conference on Neural Information Processing Systems (NeurIPS)*, 2023. (**Spotlight, Top 3.6%**)
5. Mingtong Zhang*, **Shuhong Zheng***, Zhipeng Bao, Martial Hebert, and Yu-Xiong Wang. Beyond RGB: Scene-Property Synthesis with Neural Radiance Fields. *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2023. (**First-Round Acceptance**)
Presented at workshop on AI for Creative Video Editing and Understanding. *European Conference on Computer Vision (ECCV)*, 2022.
Presented at *18th Coordinated Science Laboratory Student Conference (CSLSC)*, Robotics Session, 2023. (**4 out of >40 submissions in the Robotics Session**)
6. Haofeng Huang, **Shuhong Zheng**, Wenhan Yang, Ling-Yu Duan, and Jiaying Liu. Seeing in the Dark with Ambient Guidance. In Submission to *International Journal of Computer Vision (IJCV)*.

COMPETITIONS

- **Winner** of the Grand Challenge on *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, 2021 **First Place** on both *IR (Image Restoration)* track and *IE (Image Editing)* track, and the **Final Winner** of the *MMSP 2021 Grand Challenge*.

TALKS

- **Student Speaker** at the *18th Coordinated Science Laboratory Student Conference (CSLSC)* Feb. 2023

PATENTS

- A Low-light Enhancement Method with Long-exposure Compensation. Jiaying Liu, Haowei Kuang, **Shuhong Zheng**, Haofeng Huang, Zongming Guo.
PCT (Patent Cooperation Treaty) Application Number: PCT/CN2022/131018.

TEACHING

- **Teaching Assistant** CSC 2541 - Topics in Machine Learning: Generative AI for Images, UofT Fall 2024
- **Teaching Assistant** CS 445 - Computational Photography, UIUC Spring 2024 (Head TA), Spring 2023
- **Teaching Assistant** CS 543 - Computer Vision, UIUC Fall 2023
- **Teaching Assistant** CS 361 - Probability and Statistics for Computer Science, UIUC Fall 2022

STANDARDIZED TESTS

- **TOEFL iBT** Mar. 2021
106 (Reading 28, Listening 29, Speaking 24, Writing 25)
- **GRE** Oct. 2020
331 + 3.5 (Verbal 161, Quantitative 170, Analytical Writing 3.5)

SCHOLARSHIPS AND AWARDS

- Outstanding Reviewer, CVPR 2024 2024
- Conference Presentation Award, UIUC 2023
- Excellent Graduate, Peking University 2022

- Merit Student, Peking University 2021
- Peking University Scholarship (Third-Class), Peking University 2021
- Academic Excellence Award, Peking University 2020
- Academic Excellence Award, Peking University 2019

PROGRAMMING SKILLS

- **Programming Languages:** Python, C/C++, MATLAB, Verilog HDL
- **Machine Learning Frameworks:** PyTorch, TensorFlow, Keras

ACADEMIC SERVICES

- **Reviewer:** CVPR 2023-2024, ICML 2024, ICLR 2024, ECCV 2024, NeurIPS 2023-2024, ICCV 2023, ACCV 2024, AAAI 2025, ICLR 2024 AGI Workshop: How Far Are We From AGI?
- **Organizing Committee:** Session Co-chair of the Machine Learning and Signal Processing session in the *19th Coordinated Science Laboratory Student Conference (CSLSC)*, 2024