Xiaoyan Xing

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Research Interests

I am passionate about **3D neural rendering, video diffusion, and physically grounded generation**. I develop generative models that understand the **geometry, reflectance, lighting, and physical structure of 3D scenes**. My current interest is building physically controllable generative models.

Education

University of Amsterdam | Amsterdam, Netherlands — Sept. 2022 – Dec. 2026 (est.)
Ph.D. in Informatics, UvA-Bosch Delta Lab

- Research topics: Generative Content Creation, Neural Rendering, Image/Video Generation
- Supervisor: Prof. Theo Gevers | Daily collaborator: Prof. Anand Bhattad

Tsinghua University | Beijing, China — Sept. 2019 – Jun. 2022
M.Sc. in Biomedical Engineering

- Research topics: Medical Image Processing & Computational Photography

Chongqing University | Chongqing, China — Sept. 2015 – Jun. 2019
B.Eng. in Biomedical Engineering

Experience

Google DeepMind | San Francisco, CA — Aug. 2025 – Dec. 2025
Student Researcher, BUFF Team

- Developed controllable generative 3D environment relighting by fine-tuning a video diffusion model. Worked with Jon Barron's team, hosted by Dor Verbin. Work accepted to SIGGRAPH 2026.

Honor Device | Beijing, China — Jul. 2021 – Dec. 2021
Research Intern, Camera Team

- Conducted research on illumination estimation using point clouds. We proposed a faster and more accurate color constancy method and applied it to two popular RGB-D datasets using our annotated illumination labels and collected benchmark.

Tencent | Shenzhen, China — Mar. 2021 – Jul. 2021
Research Intern, Media Lab

- Conducted applied research on the colorization of old movies and images. I proposed an efficient colorization model using color similarity information. This contribution was commercialized in Tencent Zhimei (in Chinese).

Selected Publications

1. **Xiaoyan Xing**, Philipp Henzler, Junhwa Hur, Runze Li, Jonathan T. Barron, Pratul Srinivasan, Dor Verbin. *GR3EN: Generative Relighting for 3D Environments.* **SIGGRAPH 2026**. [Website].
2. **Xiaoyan Xing**, Konrad Groh, Sezer Karaoglu, Theo Gevers, Anand Bhattad. *LumiNet: Latent Intrinsics Meets Diffusion Models for Indoor Scene Relighting.* **CVPR 2025**. [Website].
3. **Xiaoyan Xing**, Xiao Zhang, Sezer Karaoglu, Theo Gevers, Anand Bhattad. *What Makes a Representation Relightable? Probing Visual Priors via Augmented Latent Intrinsics.* **ICML 2026**. [PDF].
4. **Xiaoyan Xing**, Vincent Tao Hu, Konrad Groh, Sezer Karaoglu, Jan Hendrik Metzen, Theo Gevers. *Retinex-Diffusion: On Controlling Illumination Conditions in Diffusion Models via Retinex Theory.* **CVIU**. [PDF].
5. **Xiaoyan Xing**, Konrad Groh, Sezer Karaoglu, Theo Gevers. *Intrinsic-GS: Multi-view Intrinsic Image Decomposition Using Gaussian Splatting and Color-Invariant Priors.* **Oral, CIC 2024**.
6. **Xiaoyan Xing**, Yanlin Qian, Sibo Feng, Yuhan Dong, Jiri Matas. *Point Cloud Color Constancy.* **CVPR 2022**. [Paper].

Invited Talks

1. *Seeing Light in Images: From Estimation to Manipulation.* Invited talk at Netflix Eyeline Studios 2025
2. *Training-Free Diffusion for Controlling Illumination Conditions in Images.* Invited talk at the CVPR 2024 Physics-Based Vision Meets Deep Learning Workshop 2024
3. *Intrinsic Appearance Decomposition Using Point Cloud Representations.* Oral presentation at the ICCV 2023 CV4Metaverse Workshop 2023

Honors & Awards

Outstanding Internship Award, Tsinghua University & Tencent 2021
Scholarship for Academic Excellence, Tsinghua University 2021
Silver Award of Social Practice, Tsinghua University 2020

Academic Service

Reviewer

- **Vision / Graphics:** CVPR, SIGGRAPH, ICCV, ECCV, and IJCV
- **Machine Learning / AI:** ICML, ICLR, NeurIPS, and AAAI

Teaching Assistant

- **Computer Vision 1:** Winter 2023–2024, University of Amsterdam
- **Computer Vision 2:** Spring 2023–2026, University of Amsterdam
- **Big Data Experiment and Application:** Spring 2021, Tsinghua University

Master Thesis Supervision

- **Pengfei Hu:** *Multi-illuminant Color Constancy with Visual Priors* 2024
- **Jesse Brouwers:** *Uncertainty Quantification in Domain-Agnostic Segmentation*, with Alex Timans 2025
- **Dante Zegveld:** *Image-Referenced 3D Generation*, with Melis Ocal 2025
- **Marina Orozco González:** *Low-Light SLAM*, with Vladimir Yugay 2025
- **Jurgen de Heus:** *Image-Referenced 4D Animation*, with Melis Ocal 2026
- **Matteo Barbieri:** *Implicit World State in Generative Models* 2026

Miscellaneous

I was born and raised in Kunming, also known as the Spring City. I love photography and co-founded the most prestigious photography club at Chongqing University. I have played drums since primary school and have performed in multiple concerts and music festivals with bands. I have traveled across four continents. I have a lovely dog with my partner.