

Huibin (Matt) Li

PhD Student · CVISS Lab · University of Waterloo

3D Computer Vision · Neural Rendering · Gaussian Splatting · 3D Generative Models

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EDUCATION

University of Waterloo

Waterloo, Canada Sep 2024 – Present

Ph.D. in Structures, Mechanics & Construction Engineering

- Advisor: Prof. Chul Min Yeum, CVISS Lab
- Research: 3D Gaussian Splatting for scene reconstruction and understanding

University of Chinese Academy of Sciences (UCAS)

Beijing, China Sep 2021 – Jun 2024

M.Eng. in Electronic and Information Engineering (Artificial Intelligence)

GPA 3.87/4

- Advisor: Prof. Jianwei Guo, Institute of Automation, Chinese Academy of Sciences
- Thesis: High-quality automatic texture reconstruction and intelligent generation for 3D digital content production

Yancheng Institute of Technology

Jiangsu, China Sep 2011 – May 2015

B.S. in Computer Science

Top 10%

PUBLICATIONS

- **Huibin Li**, Chul Min Yeum. **Warp-2DGS: Learnable Warped Kernels for 2D Gaussian Splatting**. *Conference on Neural Information Processing Systems (NeurIPS)*, 2026. **Spotlight**. [Project page] [Code]
- Pu Li, Jianwei Guo, **Huibin Li**, Bedrich Benes, Dong-Ming Yan. **SfmCAD: Unsupervised CAD Reconstruction by Learning Sketch-based Feature Modeling Operations**. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024. [Code]

Patent

- CN112116381A: Monthly active user prediction method based on LSTM neural network, storage medium and computer equipment.

RESEARCH EXPERIENCE

Graduate Research Assistant, CVISS Lab, University of Waterloo

Sep 2024 – Present

- Learnable warped kernels for 2D Gaussian Splatting that suppress Gibbs artifacts (NeurIPS 2026 Spotlight)
- Floater removal for 3D Gaussian Splatting with attention-based transformers
- Interactive oriented bounding box extraction from 3D Gaussian Splatting for scene understanding

Graduate Research Assistant, Institute of Automation, Chinese Academy of Sciences

Sep 2021 – Jun 2024

- UV texture reconstruction for 3D meshes with deep learning, improving LPIPS and PSNR over baselines
- Diffusion-based text-guided texture generation for 3D assets

INDUSTRY EXPERIENCE

Research Intern, AI Lab, Well-Link Times

Beijing, China Nov 2023 – Aug 2024

- Applied diffusion models to generate high-quality texture maps for 3D models, improving LPIPS and PSNR
- Built interactive Blender add-ons for 3D modeling, reducing game asset creation time from days to minutes
- Developed an LLM-based prompt enhancement system, cutting average prompt length from 75 to 5 words

Algorithm Engineer, Tingyun

Beijing, China Apr 2015 – Jul 2021

- Built LSTM-based time-series forecasting of monthly active users for capacity planning
- Designed an entropy-based URL aggregation algorithm, reducing storage requirements by 95%
- Developed real-time anomaly detection for high-dimensional application performance metrics

TEACHING & TALKS

- Teaching Assistant, CIVE 221, University of Waterloo, Fall 2026
- *The development and future of large models*, invited talk, China University of Political Science and Law, Dec 2023
- *Popular science on large models*, invited talk, Youth Science and Technology Innovation Salon, UCAS, Jan 2024

SKILLS

Python, C++, CUDA, JavaScript/TypeScript, Java, SQL · PyTorch, Blender, Git, Docker, Linux