Yiwen (Evan) Zhang

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Education

Cornell University Ithaca, NY

B.A. in Computer Science; ***GPA: 4.116/4.00*** *Aug 2022 – Dec 2025*

- **Selected coursework:** (Grad) Computation for Content Creation, (Grad) Physically Based Animation, Machine Learning, Computer Vision, Computer Graphics, Algorithm Analysis, Computer System, Functional Programming, Object-Oriented Programming and Data Structure, Discrete Structure - Honor, Probability Theories

Research Experience

Cornell Graphics & Vision Lab Ithaca, NY

Computer Graphics Researcher *Jun 2024 – Present*

- Work on user-specified iOS 3D registration and time-lapse visualization under guidance by **Abe Davis**.
- Awarded 7000$ fund for research in summer of 2024.

Cornell University Artificial Intelligence × Meta AI Ithaca, NY

Member & Researcher *Aug 2024 – Present*

- Do research in machine learning, computer vision, and computer graphics under guidance by Cornell professors.
- Attend weekly meetings to present research updates and read relevant research papers.

Program of Computer Graphics Ithaca, NY

Computer Graphics Researcher *Jan 2024 – May 2024*

- Work on 3D Gaussian Splatting for construction site documentation under guidance by **Donald Greenberg**.

Teaching Experience

Cornell Bowers CIS

Teaching Assistant

- **CS 4670**: Introduction to Computer Vision *Spring 2025*
- **CS 4820**: Introduction to Analysis of Algorithms *Fall 2024*
- **CS 1112**: Introduction to Computing: An Engineering and Science Perspective *Spring 2024 & Fall 2023*

Projects

ARSplat: Mobile AR for Time-Lapse Tour

- Designed a mobile AR application utilizing **ARKit** and the iPhone's LiDAR sensor to capture 3D point clouds, RGB-D images, and camera poses, enabling time-lapse analysis of structural changes.
- Leveraged ARKit's **ARWorldMap** for spatial registration between scans, supporting consistent data alignment.

Auto-Riggable Gaussian Characters

- Applied **KMeans** clustering on data from Dynamic3DGaussians (2024) to segment moving Gaussian Splats into distinct body parts without predefined anatomical constraints.
- Leveraged **local rigidity constraints** on the clusters to solve for joint positions, ensuring consistent spatial and temporal alignment for animation-ready rigs.

Compositional Splatting for Construction Sites

- Utilized Gaussian Splats for digital twin capture to simulate realistic construction environments and document a five-stage construction process modeled in **Omniverse**.

Apple Is All You Need

- Implemented a **ray-tracer** rendering an apple-only scene using techniques like **Constructive Solid Geometry**, **Fresnel refraction**, **defocus blur**, etc.

Zelda: Catch the Koroks

- Developed a **rasterization**-based mini game with custom shaders for infinitely generated terrain, grass, fog, etc.

Skills

Programming: Python, Java, OCaml, LaTeX

Libraries: PyTorch, NumPy, Pandas, Matplotlib, Three.js