# Yiwen Chen

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Location : Boston, MA


## Education

- **Northeastern University** — Boston, MA
  *PhD in Computer Science; GPA: 3.77/4.0* — *Sep. 2023 – Present*
- **Brown University** — Providence, RI
  *Master of Computer Science; Overall Grades: A* — *Sep. 2021 – Jun. 2023*
- **University of Electronic Science and Technology of China (UESTC)** — Chengdu, China
  *Bachelor of Engineering, Computer Science and Technology; Overall GPA: 3.76/4.0* — *Sep. 2017 – Jun. 2021*

## Experience

- **Northeastern University** — Boston, MA
  *Graduate Research Assistant* — *Sep. 2023 – Present*
  - **Research Focus**: Computer Vision, 3D Computer Vision, and Deep Learning.
- **Brown University** — Providence, RI
  *Graduate Research Assistant* — *Dec. 2021 – Aug. 2023*
  - **Research Focus**: 3D generation and 3D scene understanding using deep learning methods.
- **OneSight Technology** — Shanghai, China
  *Software Engineer* — *Jun. 2023 – Sep. 2023*
  - **Scan-to-BIM Converter**: Worked as a part of team to develop Scan-to-BIM, a converter that transforms LiDAR scans of buildings into BIM models with high accuracy. Collaborated closely with 3D modeling engineers to ensure the tool met the precision and performance standards required for large-scale construction projects. The tool is now in use by the company's modeling engineers.
- **Shanghai Artificial Intelligence Laboratory** — Shanghai, China
  *Software Engineer (Intern)* — *Sep. 2022 – Sep. 2022*
  - **SLAM with NeRF for 3D Room Reconstruction**: Worked to design a method that enables a robot to simultaneously perform Simultaneous Localization and Mapping (SLAM) while constructing a Neural Radiance Field (NeRF) for 3D room reconstruction.

## Projects

- **HouseCrafter — 2D-to-3D Indoor Scene Diffusion (ICCV 2025 Highlight) (Sep, 2023 – Dec, 2024)**: Created a diffusion model that lifts a 2D floorplan into a complete house-scale 3D indoor scene by autoregressively generating consistent RGB-D views at sampled camera locations. Designed a floorplan-aware attention mechanism to maintain spatial consistency across all generated views and support high-quality 3D reconstruction. Validated on 3D-Front with ablation studies demonstrating robustness of design choices. Outcome: Accepted to ICCV 2025 (highlight)
- **ShapeCrafter — Recursive Text-Conditioned 3D Generation (NeurIPS 2022)**: Worked as part of group to design a recursive 3D generator that evolves a shape as new text phrases are provided sequentially, which enabled interactive 3D modeling conditioned on natural language without retraining. Contributed to model architecture, dataset curation, experiments, and publication writing..

## Publications

- **HouseCrafter: Lifting Floorplans to 3D Scenes with 2D Diffusion Models**: ICCV 2025 (highlight). Project page
- **ShapeCrafter: A Recursive Text-Conditioned 3D Shape Generation Model**: NeurIPS 2022

## Skills

- **Programming Languages**: Python, C/C++/C#, Java
- **Research Areas**: Deep Learning, Computer Vision, 3D Computer Vision, Computer Graphics