

ADAM Yuzhen Zhang

[Adamyuzhenzhang.github.io](https://adamyuzhenzhang.github.io)

yz869@cornell.edu

607-262-3859

900 Chapel Street, New Haven, CT, 06510

Education

- 2023 - Present **Yale University** - Graduate School of Arts & Sciences
Ph.D. in Computer Science
Computer Graphics Group, advised by Julie Dorsey
- 2021 - 2023 **Cornell University** - Jacobs Technion-Cornell Institute at Cornell Tech
Dual Master of Science Degrees:
Information Systems (Cornell); Applied Information Science (Technion)
Cumulative GPA 4.077/4.3.
- 2016 - 2021 **Cornell University** - College of Architecture, Art, and Planning
Bachelor of Architecture; Computer Science Minor
Thesis: “*VR Anthropocene – Spatial Composition Through Virtual Locomotion*”
Advisors: Jenny Sabin and Sasa Zivkovic
Cumulative GPA 3.856/4.3.
- 2017 & 2019 **Cornell in Rome**
Fall 2019 Architecture Design Studio, augmented by field trips and history seminars
Summer 2017 Imagining Rome: Art Studio and Creative Writing Workshops in Italy

Publications

- [1] **Yuzhen (Adam) Zhang**, Ruixiang (Albert) Han, Ran Zhou, Peter Gyory, Clement Zheng, Patrick C. Shih, Ellen Yi-Luen Do, Malte F Jung, Wendy Ju, Daniel Leithinger, “Wizard of Props: Mixed Reality Prototyping with Physical Props to Design Responsive Environments”, Accepted, TEI ‘24 Pictorials.
- [2] Sharon Yavo-Ayalon, Swapna Joshi, **Yuzhen (Adam) Zhang**, Ruixiang (Albert) Han, Narges Mahyar, and Wendy Ju. 2023. "Building Community Resiliency through Immersive Communal Extended Reality (CXR)" *Multimodal Technologies and Interaction* 7, no. 5: 43.

Research Experiences

- 2022 Jan - Present **Research Assistant; Future Automation Research Laboratory at Cornell, NYC**
Advisors: Wendy Ju, Daniel Leithinger (THING Lab, ATLAS Institute, CU Boulder);
- *Communal eXtended Reality* [1]
Developed a communal XR bus tour to narrate possible impacts of climate change for community engagement. Implemented three technical applications: a panoramic video renderer with a high-fidelity animated digital twin of the Roosevelt Island, a VR player for immersive visualization of the scenarios, and a geolocation-tracking system that synchronizes the virtual experience to the movement of the bus.
 - *Wizard of Props* [2] and *MR Heavy Machine Prototyping*
Designed and developed interactive systems that combine physical props and virtual interaction to enable designers to understand the implications of embodiment in user interaction.
 - *XC Walking* (ongoing)
Created a digital twin of key sections of NYC. Populated it with characters and traffic that reflects the look and feel of the reality. Will invite participants to experience it in VR.

- 2022 Jun - Aug **Research Intern; XR Collaboratory at Cornell, NYC**
- Advisor: Harald Haraldsson
 - Assisted the development of course *CS5650 / INFO5340 Virtual and Augmented Reality*.
 - Designed and developed a custom Unity XR package from scratch based on OpenXR.
 - Implemented tracking, locomotion, and interaction for Oculus VR.
 - Created unit tests, documentation, and guidelines for student use.

- 2020 Jun - Aug **Research Associate; Virtual Places VR Research Lab at Cornell AAP, Ithaca, NY**
- Advisor: Henry Richardson
- Worked in a team of three to extend the city generation plugins WREN and Vitruvio in Unreal Engine 4.
 - Developed a Section plugin for creating and displaying cuts through meshes; and an AI Pedestrian Simulation plugin for studying pedestrian circulation in urban environments.
 - Implemented 2D and spatial interfaces for both tools to be used in VR.

Teaching

- 2022 May - Jun **Graduate Student Lecturer; Cornell University, Ithaca, NY**
- Designed and taught *ARCH1510 Introduction to Virtual and Augmented Reality*, 3 credits.
 - Lectured and guided individual projects to help students explore VR's role in an iterative design workflow using Gravity Sketch and Unreal Engine 4.
 - Developed a template VR project in Unreal to support students' designs, coupled with documentation. Curated a VR exhibition to showcase the applications built by students.

- 2022 Aug - 23 May **Student Academic Assistant; Cornell Tech, NYC**
- For *CS 5650 / INFO 5340 Virtual and Augmented Reality* and *CS 5678 Topics in Mixed Reality* by Director Harald Haraldsson.
 - Created and graded two VR assignments on locomotion and interaction.
 - Guided students' final projects on developing a generative VR design tool.

Employments

- 2022 Dec - 23 Aug **Startup Intern (Part Time); UrbanMix, NYC**
- Developed an interactive 3D phone app that visualizes the renting states of NYCHA buildings to automate decision-making and increase developers' returns.
- 2019 May - Jul **Architectural Assistant; Malfona Petrini Architetti, Rome, Italy**
- Worked for Professor Lina Malfona; analyzed historical and local architecture at Formello Rome; worked with local clients to develop drawings and models for the conceptual design of a villa.
- 2017 Jun - Aug **Intern Architect; BJTU Architectural Survey & Design Co., Ltd., Beijing, China**
- Analyzed zoo typologies for the design of an elephant house; Created diagrams and drawings for presentation; learned the process of architectural design.

Activities

- 2019 Nov **Lighting Designer; Locally Grown Dance; Cornell PMA, Ithaca, NY**
- Participated in stage lighting design for local dancers in Ithaca
- 2019 Jun **Presenter; Polit(t)ico Research Lab; University of Pisa, Pisa, Italy**
- Theoretical research on the duality of the collective (polittico) and politics (politico) through the design of an (absent) curatorial architecture; presented panoramic renderings on the Polit(t)ico workshop in comparative literature, art, and architectural design.

- 2018 May - Aug **Team Member of BJTU; Solar Decathlon 2018; Dezhou, China**
Collaborated with students from Beijing Jiaotong University and local contractors; constructed a two-story net-zero residential villa.
- 2017 Feb - Apr **Museum Curator; Herbert F. Johnson Museum of Art; Ithaca, NY**
Curated the show “*Power, Haunting, and Resilience*” along with faculty; worked especially on a themed exhibition “*Remaining Echo: Facets of Haunting in Asian Art*”.

Honors

- 2023 **Winner; Rendering Contest for CPSC 478/578 at Yale**
Rendered a short film, *Galactic Leaps*, with a ray tracer built from scratch in C++
- 2021 - 2023 **Cornell Tech Merit Scholarship**
Amount: \$60,000
- 2021 **Clifton Beckwith Brown Memorial Medal, Cornell AAP**
This medal is awarded to one graduating student who has attained the highest cumulative average grade in architectural design over the entire course of study.
- 2019 - 2021 **Dean’s List**
Spring 19, Fall 19, Fall 20, Spring 21
- 2020 - 2021 **Cornell Guorong Jiang Merit Scholarship & Cornell International Scholarship**
Two years of full tuition
- 2017 **Winner; Cornell Architecture Baird Prize**
Nature-watching-station design competition at Cornell AAP.

Technical Skills

- Interaction Engines** Unity, Unreal Engine, Twinmotion, A-Frame for WebXR
- Computer Languages** C#, C++ (Unreal Engine), Python (Machine Learning and Data Science), Java, Javascript
- Design Tools**
2D: Adobe Creative Suite, AutoCAD
3D: Rhinoceros, Grasshopper, Blender, V-Ray, Lumion
XR: Arkio, Gravity Sketch, Tilt Brush
- Prototyping Tools** 3D Printer, Laser Cutter, CNC, Raspberry Pi, Arduino

References

Wendy Ju
Associate Professor, Information Science
Jacobs Technion-Cornell Institute, Cornell Tech
wendyju@cornell.edu

Henry Richardson
Professor, Architecture
Cornell University
hwr1@cornell.edu

Jenny Sabin
Associate Dean, Design Initiatives
Associate Professor, Architecture
Cornell University
jes557@cornell.edu

Harald Haraldsson
Director, XR Collaboratory
Cornell Tech
hh586@cornell.edu