

ADAM Yuzhen Zhang

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Education

- 2023 **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] 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.
- [2] **Yuzhen Zhang**, Ruixiang Han, Ran Zhou, Peter Gyory, Clement Zheng, Patrick C. Shih, Ellen Yi-Luen Do, Malte F Jung, Wendy Ju, Daniel Leithinger, "Wizard of Props: MR Prototyping with Physical Props to Design Responsive Environments", Submitted, TEI '24 Pictorials.

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 - Present **Startup Intern; 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 “ <i>Power, Haunting, and Resilience</i> ” along with faculty; worked especially on a themed exhibition “ <i>Remaining Echo: Facets of Haunting in Asian Art</i> ”.

Honors

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

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Associate Professor, Architecture
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