ADAM Yuzhen Zhang

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Education

2021 - Present	**Cornell University** - Jacobs Technion-Cornell Institute at Cornell Tech Dual Master of Science Degrees: Information Systems (Cornell); Applied Information Science (Technion) Cumulative GPA 4.072/4.3; expected completion: May, 2023.
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] Yavo-Ayalon, S., **Zhang, Y.**, Han, R., Joshi, S. Bu, F., Murr, C., Zhou I., Ju, W., "CXR: Communal eXtended Reality for Immersive, Situated, On-Road Experiences", Revise and Resubmit, CHI '23.

[2] **Zhang, Y.**, Han, R., Malte, J., Ju W., Leithinger, D., "Wizard of Props: Integrating Physical Props and VR for Interactive Design", Submitted, TEI '23 Work in Progress.

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.

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 - Present | **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 "*Power, Haunting, and Resilience*" along with faculty; worked especially on a themed exhibition "*Remaining Echo: Facets of Haunting in Asian Art*". |

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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Henry Richardson
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