Woojin Ko

M.S. in Computer Science graduate seeking remote or New York City-based full-time roles. US Citizen.

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Education

Cornell Tech / Cornell University — Aug 2022 - PRESENT

M.S. / Ph.D in Computer Science: VR/AR & Human-Computer Interaction (HCI), PACT President — GPA: 3.74/4.0

- **Teaching Courses:** Human Computer Interaction and Design, Building Startup Systems
- **Relevant Courses:** 3D User Interfaces, Virtual and Augmented Reality, Computer Vision, Algorithmic Fairness

University of California, Berkeley — Aug 2017 - May 2021

B.S. in Electrical Engineering and Computer Science, EECS Honors Thesis (HCI) — GPA: 3.71/4.0

- **Interaction Courses:** Human Computer Interaction EECS Honors Thesis, Virtual Reality, Graphics, Tech Firm Leadership
- **Technical Courses:** Artificial Intelligence, Machine Learning, Algorithms, Security, Data Structures, Data Science

Professional Experience

Cornell Tech Mixed Reality Research Labs | (NYC) ***XRCare Co-Lead @ XR Colaboratory, Shifting the Focus Co-Lead + Social VR Autism / ADHD Accessibility Co-Lead @ Enhancing Ability Lab*** — Aug 2022 - PRESENT

- Developed Hololens 2 *(Unity, C#)* and iPhone AR *(Xcode, Swift, ARKit)* applications to assist informal caregivers and remote expert clinicians with at-home care tasks - wound care, drainage, physical rehab - through AR and CV *(OpenCV)* assistance.
- Conducted accessibility user studies with Autistic / ADHD people for socializing in VR and for watching videos.

National Museum of Math | (NYC) ***Technical Exhibit Designer Intern*** — Aug 2021 - Dec 2021

- Designed and redesigned several exhibits, aiming to make math more fun and interactive for museum visitors.
- Created a digital harmonograph creation web application as the main demo for the 2021 MoMath Gala Fundraiser.

UC Berkeley Mixed Reality Research Labs | ***MutualSpace Co-Founder @ XR Lab, OpenARK Co-Lead @ FHL Vive Center For Enhanced Reality, AR Video Query Honors Thesis Author @ Jacobs Design Institute*** — Apr 2019 - May 2021

- Co-authored MutualSpace, a computational AR teleconference system that generates a holographic area for remote users to interact within as if they are present in person; leverages 3D house scans, spatial optimization, and the Hololens 2.
- Presented at ISMAR (Beijing) on my work on MutualSpace and OpenARK, Berkeley's open-source AR dev kit *(C++)*.
- Completed honors research thesis project that enables users to query iPhone video data temporally and spatially.

Amazon Inc. | ***Software Development Engineer Intern*** — May 2020 - Aug 2020

- Designed and implemented the backend API *(Java, PostGreSQL)* that computes Amazon vendor action deadlines to confirm and ship items, involving varied subsets of parameters at each step in Amazon's 5-stage Purchase Order lifecycle.
- Demonstrated the system's success with a UI displaying the results of API calls on thousands of POs with different rules.

Projects & Publications

2025 CHI - Conference on Human Factors in Computing Systems (Yokohama, Japan) | *L Jiang, **W Ko**, et. al. "Shifting the Focus: Exploring Video Accessibility Strategies and Challenges for People with ADHD"*

2024 ASSETS - Conference on Computers and Accessibility (St. John's, Canada) | *J Collins, **W Ko**, et. al. "Exploring the Accessibility of Social Virtual Reality for People with ADHD and Autism: Preliminary Insights"*

2024 JMIR - Journal of Medical Internet Research (New York, New York) | *L Albright, **W Ko**, et. al. "Opportunities and Challenges for Augmented Reality in Family Caregiving: Qualitative Video Elicitation Study"*

2023 Cornell Tech Open Studio Showcase (New York, New York) | *XRCare Demo*

2021 EECS Honors Thesis Project (Berkeley, California) | *AR Video Query*

2020 Jacobs Design Institute Innovation Catalysts Spark Grant Winner (Berkeley, California) | *Piano Palette AR*

2020 IEEE VR - Conference on Virtual Reality and 3D User Interfaces (Atlanta, Georgia) | *M Keshavarzi, A Yang, **W Ko**, L Caldas. "Optimization and Manipulation of Contextual Mutual Spaces for Multi-User Virtual and Augmented Reality Interaction"*

2019 ISMAR - International Symposium on Mixed and Augmented Reality (Beijing, China) | *J Menke, **W Ko**, A Yang. "Tutorial: OpenARK - Tackling Augmented Reality Challenges via an Open-Source SDK."*

Technical Skills

VR/AR/3D	Unity, XR Interaction Tookit, MixedRealityToolKit, Swift, ARKit, XCode, Rhino 3D, Lightroom, Photoshop, 3D UI/UX Design
Languages	Java, Python, C#, C/C++, JavaScript, HTML/CSS, Golang, Bash
Libraries	Pandas, SQL, TensorFlow, PyTorch, Keras, Sklearn, NumPy, SciPy, OpenCV, Flask, React, Jekyll
Tools	Git, CI/CD (GitHub Actions), Linux, Jupyter, AWS, Azure