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 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.

Neurofit (startup) | (Remote) ***Project Manager, Neurotech at Berkeley - Software Division Lead*** Jan 2020 - May 2021

- Managed team and delegated responsibilities to create an iOS app that uses ARKit gaze detection to gather and analyze oculometric data, to then predict neurological conditions such as Alzheimer's and traumatic brain injury.

Amazon Inc. | (Remote) ***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.

UC Berkeley Research Labs | ***MutualSpace Co-Founder @ XR Lab, OpenARK Co-Lead @ FHL Vive Center*** Apr 2019 - May 2021

- Co-founded 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.
- Managed OpenARK - Berkeley's open-source AR SDK *(C++)* - testing for bugs and maintaining industry-level performance

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."*

Skills & Interests

Languages Java, Python, C#, C/C++, Swift, JavaScript, HTML/CSS, Golang, Bash

Libraries Pandas, SQL, TensorFlow, PyTorch, Keras, Sklearn, NumPy, SciPy, OpenCV, Flask, React, Jekyll, ARKit

Tools Git, CI/CD (GitHub Actions), Linux, Jupyter, AWS, Azure