

Woojin Ko

M.S. IN COMPUTER SCIENCE GRADUATE SEEKING FULL-TIME ROLES. US CITIZEN.

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Education

Cornell Tech / Cornell University - Student Government Co-President (PhDs at Cornell Tech '24) AUG 2022 - PRESENT

M.S. / PH.D IN COMPUTER SCIENCE: VR/AR & HUMAN-COMPUTER INTERACTION 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 - EECS Honors Program (Breadth Concentration: HCI) AUG 2017 - MAY 2021

B.S. IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE 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

Amazon Inc. | (Seattle, Remote) Software Development Engineer Intern MAY 2020 - AUG 2020

- Designed backend API for computing shipping deadlines for Amazon's vendors within the Purchase Order (PO) lifecycle.
- Implemented API using Java and PostgreSQL, handling POs based on varied subsets of rules and parameters.
- Demonstrated successful API calls on thousands of POs and laid groundwork to train on this data for ML predictions.

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 web application for simulating a harmonograph drawing using HTML/CSS/Javascript.
- Deployed harmonograph application for 500+ attendees to try at the 2021 MoMath Gala fundraiser

Cornell Tech XR Colaboratory | (NYC) PhD Student Researcher - 2024 JMIR, 2023 Cornell Tech Open Studio AUG 2022 - PRESENT

- Developed AR headset and mobile applications to assist informal caregivers and remote expert clinicians with at-home care tasks - wound care, drainage, physical rehab - using AR guidance, computer vision, and networked communication.
- Built applications for Hololens 2 with Unity, C#, and OpenCV, and for iPhone with Xcode, Swift, and ARKit.
- Published work at 2024 Journal of Medical Internet Research and presented at 2023 Cornell Tech Open Studio.

UC Berkeley - FHL Vive Center for Enhanced Reality | Undergraduate Student Researcher APR 2019 - MAY 2021

- Co-founded an AR system that generates a holographic area for remote users to interact within, as if co-located in person
- Built much of the technical pipeline, leveraging 3D house scan data, spatial optimization algorithms, and the Hololens.
- Published work at 2020 IEEE VR and presented at 2019 International Symposium of Mixed and Augmented Reality.

Projects & Publications

2021 Electrical Engineering and Computer Sciences Honors Thesis Project (Berkeley, California) | AR Video Query

- Created desktop application that enables users to query iPhone video data via timestamps or spatial locations.

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

- Developed a real-time AR iPad app that produces visualizations of piano music pieces, winning the 2020 Spark Grant.

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

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"

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