Woojin Ko

Personal Information

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Education

Aug '22 – May '25 — **Cornell Tech / Cornell University**
M.S. in Computer Science: VR / AR & Human Computer Interaction - GPA: 3.74 / 4.0
President of the PhD Student Government - PACT (PhDs at Cornell Tech '24)
Teaching: Human Computer Interaction + Design, Building Startup Systems (Full-Stack Web Development)
Relevant: 3D User Interfaces, Virtual + Augmented Reality, Computer Vision, Artificial Intelligence, Algorithmic Fairness

Aug '17 – May '21 — **University of California, Berkeley**
B.S. in Electrical Engineering and Computer Sciences - GPA: 3.71 / 4.0
EECS Honors Program: Research Thesis - Human Computer Interaction (HCI)
Technical: Artificial Intelligence, Machine Learning, Algorithms, Security, Data Structures, Data Science
Interaction: Human Computer Interaction EECS Honors Thesis, Virtual Reality, Computer Graphics, Tech Firm Leadership

Work Experience

Aug '25 – PRESENT — **AI Research Engineer**
OpenAI

Mar '25 – PRESENT — **Interactive Technologist**
Bravo Media Experiential Studio
Created a retro-style Donkey Kong arcade game for the 2025 KPMG Tax Conference, using tax-themed messages and icons.
Designed and developed the game using Unity + C# scripts for game logic, Photoshop for designing sprites, and generative AI like Suno + Cursor for generating music and debugging code issues.

Jan '24 – May '25 — **Graduate Teaching Assistant**
Cornell Tech: CS 5682 - Human Computer Interaction // CS 5356 - Building Startup Systems
Helped teach HCI and full-stack web development to hundreds of master's students
Assisted with lectures, graded homework and projects, and offered guidance and feedback to students during office hours.

Aug '22 – May '25 — **PhD Student Researcher**
Cornell Tech

Aug '21 – Dec '21 — **Technical Exhibit Designer Intern**
National Museum of Math
Designed and redesigned several exhibits, aiming to make math more fun and interactive for visitors.
Created a digital harmonograph creation web application as the demo for the 2021 MoMath Gala Fundraiser.

Aug '20 – May '21 — **Project Manager**
Neurofit (startup)
Led collaboration with Neurofit startup to create an iOS app that utilizes ARKit gaze detection to gather and analyze oculometric data, to then predict neurological conditions such as Alzheimer's and traumatic brain injury.

May '20 – Aug '20 — **Software Development Engineer Intern**
Amazon, Inc.
Designed and implemented a Java backend API for calculating the cancellation date for Purchase Orders.
Created a UI displaying the successful results of API calls on thousands of POs covering complex policies and cases.
Established the groundwork for significant improvements to internal tool predictions and vendor UX clarity.

Research Experience

Jun '23 – May '25 — **AuDHD Projects Co-Lead, PhD Researcher - CHI '25, ASSETS '24**
Enhancing Abilities Lab - Cornell Tech - NYC
Designed and conducted user interviews to better understand the accessibility needs and challenges of people with ADHD, when watching videos on popular existing platforms.
Published at CHI '25 - ACM Conference on Human Factors in Computing Systems.

Designed and conducted user interviews to better understand the accessibility needs and challenges of Autistic / ADHD people who face frequent challenges with social interactions, when socializing in multi-user VR environments.
Published at ASSETS '24 - SIGACCESS Conference on Computers and Accessibility.

Aug '22 – Jan '24

XRCare Project Co-Lead, PhD Researcher - JMIR '24, CT Open Studio '23
XR Collaboratory - Cornell Tech + MSK Cancer Center - NYC
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 at JMIR '24 - Journal of Medical Internet Research and presented at Cornell Tech Open Studio '23.

Jan '21 – May '21

AR-Video Query Project Co-Lead, Honors Research Thesis Author
Jacobs Institute for Design Innovation - University of California, Berkeley
Conducted thesis to help build a system that enables users to query iPhone videos temporally and spatially.
Designed the spatial query interaction of painting points in a region, the temporal query interaction of scrubbing to specific time frames in multiple videos, and the results panel of visualizing query results.
Extended our system's utility for crowdsourcing social activism and optimizing CV training data collection.

Jun '19 – Mar '21

Spacefind Project Co-Lead, Undergraduate Student Researcher
XR Lab - College of Environmental Design - University of California, Berkeley
Devised integrated modules for processing 3D indoor scenes, calculating the optimal mutual interaction space, and recommending feasible furniture movements to expand the interaction boundaries.
Developed a Hololens application in Unity for multiple users to visualize the space layout projections in AR.
Designed a full-scale Hololens visualization experience with an intuitive UI, visual instructions for moving furniture, more aesthetic and user-friendly designs, and improved hologram stability.
Published at IEEE VR '20 - Conference on Virtual Reality and 3D User Interfaces.

Apr '19 – Jan '21

OpenARK Team Lead, Undergraduate Student Researcher
FHL Vive Center for Enhanced Reality - University of California, Berkeley
Managed Berkeley's open-source AR SDK - maintaining industry-level performance and resolving issues relating to core assets such as hand tracking, 3D reconstruction, and SLAM.
Created installers and CMake scripts for building dependencies and running OpenARK on Windows/Linux.
Published at ISMAR '19 - International Symposium on Mixed and Augmented Reality.

Publications and Presentations

CHI '25

2025 CHI - Conference on Human Factors in Computing Systems (Yokohama, Japan)
L Jiang, **W Ko**, S Yuan, T Shende, S Azenkot
"Shifting the Focus: Exploring Video Accessibility Strategies and Challenges for People with ADHD"

ASSETS '24

2024 ASSETS - SIGACCESS Conference on Computers and Accessibility (St. John's, Canada)
J Collins, **W Ko**, T Shende, S Y Lin, L Jiang, A Stevenson Won, S Azenkot
"Exploring the Accessibility of Social Virtual Reality for People with ADHD and Autism: Preliminary Insights"

JMIR '24

2024 JMIR - Journal of Medical Internet Research (New York, New York)
L Albright, **W Ko**, M Buvanesh, H Haraldsson, F Polubriaginof, G J Kuperman, M Levy, M R Sterling, N Dell, D Estrin
"Opportunities and Challenges for Augmented Reality in Family Caregiving: Qualitative Video Elicitation Study"

Cornell Tech Open Studio '23

2023 Cornell Tech Open Studio Showcase (New York, New York)
W Ko, L Albright, H Haraldsson, D Estrin
XRCare Demo

EECS Honors Thesis '21

2021 UC Berkeley Electrical Engineering and Computer Sciences Honors Research Thesis (Berkeley, California)
AR-Video Query

IEEE VR '20

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"

ISMAR '19

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."

Relevant Experience

Aug '19 – Dec '19 | **Electrical Muscle Stimulation VR - Capstone Project Tech Lead**
CS294-137 Virtual Reality and Immersive Computing
Devised an electrical muscle stimulation haptic feedback system to immerse users further in VR.
Constructed a three-part system - hacked EMS device circuits, built an Arduino Unity-EMS bridge, and designed Oculus VR experiences (drums, tennis, shooting range) with the appropriate muscle group stimulation

Jan '20 – May '21 | **Software Division Lead**
Neurotech @ Berkeley
Directed the software division and overseeing EEG data projects including a self-care/health educational tool, music creation module, and human visual system reconstruction.

Feb '19 – Jan '21 | **AR for VIPs Team Lead, Officer**
Extended Reality @ Berkeley
Developed a Hololens app providing audio assistance for visually impaired users to navigate surroundings.
Mapped voice commands and hand gestures to our assistive audio functions for reading text aloud from street signs and sonifying nearby surroundings with attached audio beacons

Aug '20 – Dec '20 | **Piano Palette AR Technical Lead**
Jacobs Institute Innovation Catalysts Spark Grant Winner
Designed a real-time piano AR visualization experience to elicit deeper connections with classical music.

Service

Jan '24 - Present | **Teaching Assistant** | *Cornell Tech*
Human Computer Interaction and Design, Building Startup Systems

Jun '24 | **Volunteer Chair** | *XR Access Symposium 2024*

Jan '24 - Present | **Co-President** | *PhDs at Cornell Tech (PACT)*

Oct '23 | **Student Volunteer** | *ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2023)*

May '23 - Present | **Organizer** | *Cornell Graduate Student Union*

May '23 | **PhD Mentor** | *Cornell REU*

Jun '23 | **Student Volunteer** | *XR Access Symposium 2023*

May '21 | **Volunteer** | *Berkeley Mutual Aid*

Oct '20 | **Hackathon Mentor** | *Berkeley Hack Month*

Oct '19 | **Hackathon Mentor** | *CalHacks*

Dec '19 | **Academic Intern** | *(CS61B) Data Structures, (CS61A) Interpretation of Computer Programs*

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
Tools	Git, CI/CD (GitHub Actions), Linux, Jupyter, AWS, Azure
Life	Tottenham fan, pickup soccer, pickup basketball, writing, travel, food, photography, skateboarding, books, movies, concerts