# Xander Koo

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https://xanderk.ooo

Ph.D. Student in Human-Centered Computing at Georgia Tech

## Areas of Interest

Social Computing, Social Media, Politics, Labor Organizing

## Education

**Aug 2022 – present**
Ph.D. in Human-Centered Computing
Georgia Institute of Technology, Atlanta, GA
Advised by Dr. Amy Bruckman

Aug 2017 – Dec 2021
Bachelor of Arts, Major in Computer Science, Minor in Asian Studies
Pomona College, Claremont, CA
Summa cum laude

## Research

**Aug 2022 – present**
Graduate Research Assistant
School of Interactive Computing, Georgia Institute of Technology, Atlanta, GA

May 2020 – Dec 2021
Research Assistant
Department of Computer Science, Pomona College, Claremont, CA
- Conducted HCI/computer vision research on WebGazer, a webcam gaze prediction app, under Dr. Alexandra Papoutsaki
- Created data collection/analysis pipeline for remote user study in ongoing collaboration with University of Central Florida.
- Integrated TensorFlow.js Facemesh face tracking; added IndexedDB browser cache; built prediction accuracy test suite in JS

May 2021 – Aug 2021
Visiting Research Assistant
Brown HCI Lab, Brown University, Providence, RI (remote)
- Continued development of a robust error testing pipeline for gaze prediction accuracy on Brown HCI's WebGazer
- Integrated Google MediaPipe for biometrics on Portal-ble, a mobile AR environment in Unity, working with Jing Qian

Jul 2019 – Aug 2019
Summer Research Intern
National Taiwan University IoX Center, Taipei, Taiwan
- Worked on 2 new VR haptic accessories, FrictShoes and GuideBand, latter was accepted to CHI 2021
- Built Arduino comparison prototype for vibrotactile arm guidance (Aggravi et al, 2016) and VR test scenarios in Unity/C# Won 2nd place award in IoX Center Summer Research Program under Dr. Hsin-Ruey Tsai and Dr. Robin Bing-Yu Chen

May 2019 – Jul 2019
Undergraduate Research Intern
Kōgakuin University, Tokyo, Japan
- Implemented live camera object detection with TensorFlow in Python, on a Raspberry Pi that communicates with linked microcontrollers (GR-PEACH) via I2C protocol for a microcontroller-based path guidance robots

May 2018 – Aug 2018
Research Assistant
Stanford University Asia-Pacific Research Center, Stanford, CA
- Researched electoral malfeasance, Taiwan's Central Election Commission, & indigenous land rights w/ Dr. Kharis Templeman

## Publications

2021
H. Tsai, Y. Chang, T. Wei, C. Tsao, X. Koo, H. Wang, B. Chen. GuideBand: Intuitive 3D Multilevel Force Guidance on a Wristband in VR. In *CHI Conference on Human Factors in Computing Systems (CHI '21)*, May 2021, Yokohama, Japan.

# Teaching

### Teaching Assistantship

Fall 2019     CS62 Data Structures and Advanced Programming
Instructor: Dr. Alexandra Papoutsaki | Pomona College

Spring 2019     CS62 Data Structures and Advanced Programming
Instructor: Dr. William Devanny | Pomona College

Fall 2018     CS51 Intro to Computer Science, Java
Instructor: Dr. Yuqing Melanie Wu | Pomona College

# Professional

May 2021 – Aug 2021     Software Developer Intern
IBM Cloud Key Protect, Austin, TX (remote)

- Built Slack bot to aid Key Protect developers by automating daily compliance tasks, now used daily by 50+ developers
- Collected feedback from & met with developers to iteratively polish bot design/functionality before launch
- Implemented regional service instance control functionality with Golang & PostgreSQL for Key Protect clients

# Leadership

Sep 2018 – Dec 2021     5C Freestylin' Collective
Claremont Colleges, Claremont, CA

- Officer (Jan 2018-May 2020)
- President (Jan 2021-Dec 2021)

Sep 2018 – Dec 2021     Taiwanese American Student Association
Claremont Colleges, Claremont, CA

- Events Coordinator (Sep 2018-Sep 2019)
- Co-President (Sep 2019-May 2020)
- Vice President (Jan 2021-Dec 2021)

# Honors

2022     Alternate Candidate, Fulbright U.S. Student Scholarship (Japan)

2020     Inductee, Phi Beta Kappa Society

2020–2021     Tapia Conference Scholar

2017–2021     Pomona Scholar Award (awarded for 7 semesters)

# Technical Skills

### Programming

JavaScript, Java, Python, Golang, C#, C++

### Other

Git, Bash, LaTeX, HTML/CSS, Unity, PostgreSQL, Tensorflow, Raspberry Pi, Arduino

# Languages

English, Mandarin Chinese (bilingual fluency), Japanese (professional proficiency)