Kangyou (Calvin) Yu

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Research Interest

Human-Computer Interaction (HCI), AR/VR/MR, Adaptive User Interfaces, Multimodal Interaction, Input Techniques, Body Interaction, Exergame...

Education

2022-2024 **University of California, Santa Barbara (UCSB)**, Santa Barbara, USA
Master of Science in Computer Science

2018-2022 **Xi'an Jiaotong-Liverpool University (XJTLU)**, Suzhou, China
University of Liverpool (UoL), Liverpool, United Kingdom
B.Sc. in Information and Computing Science (**With Honors**)

On-Going Projects

Project 1 (**Co-first Author**): Investigating and Understanding the N400 Signal in AR.

Project 2 (**First Author**): Investigating human behaviors of Selecting Physical and Virtual Objects in Mixed Reality.

Full Publications

CONFERENCE PAPERS

[C.7] Chengyuan Xu, Radha Kuruma, Noah Stier, **Kangyou Yu**, Tobias Höllerer.
"Multimodal 3D Fusion and In-Situ Learning for Spatially Aware AI"
IEEE ISMAR 2024

[C.6] Xuetong Wang, Ziyan Wang, Mingmin Zhang, **Kangyou Yu**, Pan Hui, Mingming Fan. *"Avatar Appearance and Behavior of Potential Harassers Affect Users' Perceptions and Response Strategies in Social Virtual Reality (VR): A Mixed-Methods Study"*
CSCW 2024

[C.5] Abby Wysopal, Vivian Ross, Joyce Passananti, **Kangyou Yu**, Brandon Huynh, Tobias Höllerer. *"Level-of-Detail AR: Dynamically Adjusting Augmented Reality Level of Detail Based on Visual Angle."* **IEEE VR 2023**

[C.4] Anil Ufuk Batmaz, **Kangyou Yu**, Hai-Ning Liang, Wolfgang Stuerzlinger. *"Improving Effective Throughput Performance using Auditory Feedback in Virtual Reality."* **ACM SUI 2022**

[C.3] Wenge Xu, Xuanru Meng, **Kangyou Yu**, Hai-Ning Liang, Sayan Sarcar. *"Evaluation of Text Selection Techniques in Virtual Reality Head-Mounted Displays."* **IEEE ISMAR 2022**

[C.2] Wenge Xu, Hai-Ning Liang, **Kangyou Yu**, Nilufar Baghaei. *"Effect of Gameplay Uncertainty, Display Type, and Age on Virtual Reality Exergames."* **CHI 2021**

[C.1] Wenge Xu, Hai-Ning Liang, Yuzheng Chen, Xiang Li, **Kangyou Yu**. *"Exploring Visual Techniques for Boundary Awareness During Interaction in Augmented Reality Head-Mounted Displays."* **IEEE VR 2020, Best Paper Nomination (5%)**

Journal articles

[J.5] Wenge Xu, **Kangyou Yu**, Xuanru Meng, Diego Vilela Monteiro, Dominic Kao, Hai-Ning Liang. *"Exploring the effect of the Group Size and Feedback of non-player character spectators in virtual reality exergames."* **Frontiers in Psychology (Human-Media Interaction section)**

[J.4] **Kangyou Yu**, Shaoyue Wen, Wenge Xu, Maurizio Caon, Nilufar Baghaei, Hai-Ning Liang. *"Cheer for Me: Effect of Non-Player Character Audience Feedback on Older Adult Users of Virtual Reality Exergames."* **Springer Virtual Reality (VIRE) 2023**

[J.3] Wenge Xu, Hai-Ning Liang, **Kangyou Yu**, Shaoyue Wen, Nilufar Baghaeil, Huawei Tu. *"Acceptance of Virtual Reality Exergame Among Chinese Older Adults."* **International Journal of Human-Computer Interaction 2021**

[J.2] Wenge Xu, Hai-Ning Liang, Nilufar Baghaei, Xiaoyue Ma, **Kangyou Yu** Xuanru Meng, Shaoyue Wen. *"Effects of an Immersive Virtual Reality Exergame on University Students' Anxiety, Depression, and Perceived Stress: Pilot Feasibility and Usability Study."* **JMIR Serious Game 2021**

[J.1] Wenge Xu, Hai-Ning Liang, Qiuyu He, Xiang Li, **Kangyou Yu**, Yuzheng Chen. *"Results and Guidelines From a Repeated-Measures Design Experiment Comparing Standing and Seated Full-Body Gesture-Based Immersive Virtual Reality Exergames: Within-Subjects Evaluation."* **JMIR Serious Game 2020**

Research Experience

10/2022-present **UC-Santa Barbara (UCSB)**, Santa Barbara, CA
Graduate Research Assistant
FourEyesLab, Advisor: Tobias Höllerer

Mainly working on the topic of HCI and MR, focus on the input modalities and input techniques in Mixed Reality.

- Leading a research that is combining the AR and EEG staffs to investigate if we can detect significant N400 human brain signal in classifying word-word pairs and word-object pairs while wear AR glasses. (Will lead to a first author publication — On-going project 1)

- Leading a research that is investigate the difference between the selection of physical objects and virtual objects in mixed reality. (Will lead to a first author publication — On-going project 2)

- I worked on spatially aware AI for the mixed reality. [C.7]

- I worked on designing dynamically adjusting augmented reality level of details in mixed reality. [C.5]

06/2022- **The Hong Kong University of Science and Technology (Guangzhou)**,
10/2022 Guangzhou, China
Undergraduate Research Intern
APEX Lab, Advisor: Mingming Fan

Worked on a project which examines the moderating effect of avatar appearance on user perception of sexual harassment and uncovering the underlying reasons behind response strategies. ([C.6])

04/2021- **Simon Fraser University (SFU)**, Vancouver, Canada
10/2022 Undergraduate Research Intern
VVISE Lab, Advisor: Wolfgang Stuerzlinger and Anil Ufuk Batmaz

- I worked as an undergraduate research intern

- I co-designed the experiment and collected data by conducting two user studies and analyzed the data

- The project published at ACM SUI 2022 [C.4]

04/2019- **Xi'an Jiaotong-Liverpool University (XJTLU)**, Suzhou, China
07/2022 Undergraduate Research Assistant
X-CHI Lab, Advisor: Hai-Ning Liang and Wenge Xu

- I worked as an undergraduate research assistant

- I worked on evaluating the text selection techniques in VR. [C.3]

- I worked on investigating the effect of different factors on different ages groups of users in VR exergames. [J.1][J.2][J.3][J.4][J.5][C.2]

- I worked on exploring visual trchniques for boundary awareness in AR HMDs. [C.1]

- The project published at ACM SUI 2022 [C.4]

Awards and Honors

2023   SIGCHI Gray Marsden Travel Award ($2000)
2022   Academic Excellence Fellowship from UCSB ($2000)
2021   ACM UIST 2021 Registration Scholarship
2020   Research Assistant Fellowship at XJTLU ($1,400)
2020   IEEE VR & 3DUI 2020 Best Conference Paper Nominee (5%)
2019   Summer Undergraduate Research Fellowship (SURF) at XJTLU

Teaching Experience

04/2024-
06/2024   **Teaching Assistant**-CMPSC 16 **Problem Solving I**

04/2023-
06/2023   **Teaching Assistant**-CMPSC 9 **Intermediate Python**

Professional Services

Reviewer: ACM CHI 2023, IJHCI 2023, ACM CHI Play 2024, ACM VRST 2024

Student Volunteer: IEEE ISMAR 2024, IEEE ISMAR 2023, ACM CHI 2023, IEEE VR 2023, ACM SUI 2022, IEEE ISMAR 2021, ACM IUI 2021, IEEE AIVR 2020