YUKANG YAN

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EDUCATION

Tsinghua University, Beijing *September 2015 - Present*
Ph.D. in Computer Science
Department of Computer Science and Technology

Tsinghua University, Beijing *September 2011 - July 2015*
Bachelor of Computer Science *GPA: 3.9 top 3%*
Department of Computer Science and Technology

RESEARCH INTERESTS

My research area is Human-Computer Interaction (HCI), in which I focus developing novel input techniques to improve the user experience with VR/AR, wearable devices and voice user interfaces. I have research experience of improving fundamental tasks of object selection in VR/AR and dialogue control (e.g., wake-up, interruption) for VUI. I developed my skills of signal processing, machine learning and building statistical models.

PUBLICATIONS

[1] **Yukang Yan**, Chun Yu, Wengrui Zheng, Ruining Tang, Xuhai Xu, and Yuanchun Shi. "FrownOnError: Interrupting Responses from Smart Speakers by Facial Expressions". In: *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. CHI '20. Honolulu, HI, USA: Association for Computing Machinery, 2020. ISBN: 978145036708. DOI: 10.1145/3313831.3376810.

[2] **Yukang Yan**, Yingtian Shi, Chun Yu, and Yuanchun Shi. "HeadCross: Exploring Head-Based Crossing Selection on Head-Mounted Displays". In: *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 4.1 (Mar. 2020). DOI: 10.1145/3380983.

[3] Xuhai Xu, Haitian Shi, Xin Yi, Wenjia Liu, **Yukang Yan**, Yuanchun Shi, Alex Mariakakis, Jennifer Mankoff, and Anind K. Dey. "EarBuddy: Enabling On-Face Interaction via Wireless Earbuds". In: *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. CHI '20. Honolulu, HI, USA: Association for Computing Machinery, 2020. ISBN: 978145036708. DOI: 10.1145/3313831.3376836.

[4] **Yukang Yan**, Chun Yu, Yingtian Shi, and Xie Mingxing. "PrivateTalk: Activating Voice Input with Hand-On-Mouth Gesture Detected by Bluetooth Earphones". In: *The 32nd Annual ACM Symposium on User Interface Software and Technology*. UIST '19. New Orleans, LA, USA: ACM, 2019. ISBN: 978-1-4503-5620-6. DOI: 10.1145/3332165.3347950.

[5] **Yukang Yan**, Chun Yu, Xiaojuan Ma, Xin Yi, Ke Sun, and Yuanchun Shi. "VirtualGrasp: Leveraging Experience of Interacting with Physical Objects to Facilitate Digital Object Retrieval". In: *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. CHI '18. Montreal QC, Canada: ACM, 2018, 78:1–78:13. ISBN: 978-1-4503-5620-6. DOI: 10.1145/3173574.3173652.

[6] **Yukang Yan**, Chun Yu, Xiaojuan Ma, Shuai Huang, Hasan Iqbal, and Yuanchun Shi. "Eyes-Free Target Acquisition in Interaction Space Around the Body for Virtual Reality". In: *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. CHI '18. Montreal QC, Canada: ACM, 2018, 42:1–42:13. ISBN: 978-1-4503-5620-6. DOI: 10.1145/3173574.3173616.

[7] **Yukang Yan**, Chun Yu, Xin Yi, and Yuanchun Shi. "HeadGesture: Hands-Free Input Approach Leveraging Head Movements for HMD Devices". In: *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 2.4 (Dec. 2018), 198:1–198:23. ISSN: 2474-9567. DOI: 10.1145/3287076.

[8] Ke Sun, Yuntao Wang, Chun Yu, **Yukang Yan**, Hongyi Wen, and Yuanchun Shi. "Float: One-Handed and Touch-Free Target Selection on Smartwatches". In: *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. CHI '17. Denver, Colorado, USA: ACM, 2017, pp. 692–704. ISBN: 978-1-4503-4655-9. DOI: 10.1145/3025453.3026027.

[9] **Yukang Yan**, Xin Yi, Chun Yu, and Yuanchun Shi. "Gesture-Based Target Acquisition in Virtual and Augmented Reality". In: *Virtual Reality and Intelligent Hardware.* (Apr. 2019), 24 pages. ISSN: 2474-9567.

[10] Zhaoyuan Ma, **Yukang Yan**, Darren Edge, Hong Tan, Yuanchun Shi, and Ed Colgate. "eClover: A Combined Electrostatic and Four-Tactor Wearable System for Eyes-Free Interactions". In: Illinois, USA, Apr. 2015.

AWARDS

Souhu Research and Development Scholarship, Tsinghua University 2019
National Scholarship for Doctoral Students 2018
Special-Class Award in "Challenge Cup" of Tsinghua University 2017
First Prize in GIX Global Innovation Competition 2016
Outstanding Undergraduate Awards, top 5% 2015
Outstanding Thesis Award of Tsinghua University, top 5% 2015

RESEARCH EXPERIENCE

University of Michigan, MI Start from October 2019
Visiting researcher with Professor Michael Nebeling.

Microsoft Research of Asia, Beijing October 2014 - March 2015
Research Intern in HCI group with Hong Tan.
Conducting research on haptic feedback on the touchscreen of smartphones.

University of Southern California, CA June - July 2014
Research Intern in Information Sciences Institute with Professor Pedro Szekely.
Developing tools to facilitate publication of data in the Linked Data cloud.

TEACHING EXPERIENCE

Teaching Assistant, Tsinghua University Spring 2018
Human Computer Interaction Technology. Spring 2015
Graduate course on human-computer interaction.

Teaching Assistant, Tsinghua University Fall 2015-2018
Computer Science: An Overview.
Developed teaching tools (https://github.com/chyyuu/v8-cpu).

ACADEMIC SERVICE

Reviewer CHI'18-20, CHI'20 LBW, MobileHCI'19-20, ICMI'19, IJHCS

PATENTS PENDING

1 Chun Yu, Yuanchun Shi, **Yukang Yan**, 2019, Gesture-based wake-up method for voice input, Chinese Patent: CN110164440A.

2 Chun Yu, Yizheng Gu, Zhican Yang, **Yukang Yan**, Yuanchun Shi, 2017, Hand gesture tracking device, Chinese Patent: CN207752443U.