

Fields of Interests

Extended reality (XR), computational interaction

Education

- 09/2022 - Present **Carnegie Mellon University**
Pittsburgh, PA Ph.D. in Human-Computer Interaction. Advisor: David Lindlbauer
- 09/2017 - 12/2021 **Swarthmore College**
Swarthmore, PA B.A. in Computer Science, GPA: 4.0/4.0
- 10/2019 - 06/2020 **Wadham College, University of Oxford**
Oxford, UK Visiting Student

Publications

Conference

- C.07 M. Beyer, **Y. Cheng**, C. Holz. Cross-Device Shortcuts: Seamless Attention-guided Content Transfer via Opportunistic Deep Links between Apps and Devices. ACM ICMI 2023.
<https://dl.acm.org/doi/10.1145/3577190.3614145>
- C.06 P. Strelj, R. Armani, **Y. Cheng**, C. Holz. HOOV: Hand Out-Of-View Tracking for Proprioceptive Interaction using Inertial Sensing. ACM CHI 2023.
<https://dl.acm.org/doi/abs/10.1145/3544548.3581468>
- C.05 **Y. Cheng**, T. Luong, A. Fender, P. Strelj, C. Holz. ComforTable User Interfaces: Surfaces Reduce Input Error, Time, and Exertion for Tabletop and Mid-air User Interfaces. IEEE ISMAR 2022.
<https://ieeexplore.ieee.org/abstract/document/9995404>
- C.04 **Y. Cheng**, H. Yin, Y. Yan, J. Gugenheimer, D. Lindlbauer. Towards Understanding Diminished Reality. ACM CHI 2022.
<https://dl.acm.org/doi/abs/10.1145/3491102.3517452>
- C.03 **Y. Cheng**, Y. Yan, X. Yi, Y. Shi, D. Lindlbauer. SemanticAdapt: Optimization-based Adaptation of Mixed Reality Layouts Leveraging Virtual-Physical Semantic Connections. ACM UIST 2021.
<https://dl.acm.org/doi/abs/10.1145/3472749.3474750>
- C.02 F. Han, **Y. Cheng**, M. Strachan, X. Ma. Hybrid Paper-Digital Interfaces: A Systematic Literature Review. ACM DIS 2021.
<https://dl.acm.org/doi/abs/10.1145/3461778.3462059>
- C.01 M. Nebeling, S. Rajaram, L. Wu, **Y. Cheng**, J. Herskovitz. XRStudio: A Virtual Production Technology Probe for Immersive Instructional Experiences. ACM CHI 2021.
<https://dl.acm.org/doi/10.1145/3411764.3445323>

Journal

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- J.02 J. Herskovitz, **Y. Cheng**, A. Guo, A. Sample, M. Nebeling. XSpace: An Augmented Reality Toolkit for Enabling Spatially-Aware Distributed Collaboration. PACMHCI, Vol. 6, Issue ISS, 2022.
<https://dl.acm.org/doi/abs/10.1145/3567721>
- J.01 **Y. Cheng**, M. Strachan, Z. Weiss, M. Deb, D. Carone, V. Ganapati. Illumination Pattern Design with Deep Learning for Single-shot Fourier Ptychographic Microscopy. Optics Express Vol. 27, Issue 2, 2019.
<https://www.osapublishing.org/oe/abstract.cfm?uri=oe-27-2-644>

Posters, Demos, and Workshop Papers

- P.01 A. Normoyle, **Y. Cheng**. The Q*Bird Level Designer: User-Assisted Level Design in Augmented Reality. ACM Motion, Interaction, and Games 2019.
<https://dl.acm.org/doi/10.1145/3359566.3364686>

Experience

- 01/2022 - 08/2022 **Sensing, Interaction, and Perception Lab, ETH Zurich**
Zurich, Switzerland
Advised by Christian Holz
- 05/2021 - 09/2021 **Augmented Perception Lab, Carnegie Mellon University**
Virtual
Advised by David Lindlbauer and Jan Guggenheimer
- 05/2020 - 10/2020 **Information Interaction Lab, University of Michigan**
Virtual
Advised by Michael Nebeling
- 07/2019 - 09/2019 **Human-Computer Interaction Initiative, Hong Kong University of Science and Technology**
Hong Kong
Advised by Xiaojuan Ma
- 01/2019 - 07/2019 **Department of Computer Science, Swarthmore College**
Swarthmore, PA
Advised by Aline Normoyle
- 01/2018 - 08/2018 **Department of Engineering, Swarthmore College**
Swarthmore, PA
Advised by Vidya Ganapati

Awards

- 2022 **Croucher Scholarship for Doctoral Study**
\$90,000 academic scholarship
- 2021 **Dean's Office Conference Funding**
\$150 award for attending ACM Symposium on User Interface Software and Technology
Baltimore/Broad Summer Research Fellowship
\$4,800 award for conducting summer research
- 2020 **Baltimore/Broad Summer Research Fellowship**
\$4,800 award for conducting summer research
- 2019 **Dean's Office Conference Funding**
\$500 award for travel assistance to ACM Motion, Interaction, and Games
Cilento Technology Fund
\$4,800 award for conducting summer research

- 2018 **Surdna Summer Research Fellowship**
\$4,800 award for conducting summer research

Service

- 2023 **Reviewer**, CHI
Reviewer, UIST
Student Volunteer, CHI
- 2022 **Reviewer**, UIST
- 2021 **Reviewer**, UIST
Reviewer, CHI
Reviewer, CHI Late-Breaking Work
- 2021 **Reviewer**, CHI PLAY Work-In-Progress
Reviewer, ISMAR Posters
Student Volunteer, DIS
- 2020 **Student Volunteer**, ISS
Reviewer, ISMAR Posters
- 2019 **Reviewer**, CHI LBW

Teaching

- 2023 **Teaching Assistant**, Carnegie Mellon University
Programming User Interfaces (Graduate)
Designing Human-Centered Systems (Undergraduate)
- 2021 **Computer Science Mentor**, Swarthmore College
Teaching Assistant & Tutor, Swarthmore College
1st/2nd year course on digital and embedded systems (ENGR 015)
- 2019 **Teaching Assistant**, Swarthmore College
1st/2nd year course on mechanics (ENGR 006)
- 2018 **Engineering Tutor**, Swarthmore College
1st/2nd year course on digital and embedded systems (ENGR 015)

References

David Lindlbauer

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Christian Holz

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Michael Nebeling

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nebeling@umich.edu