

Yannick Weiss

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I am an **HCI Researcher** and **Ph.D.** student in the field of **Human-Computer Interaction** at **Ludwig-Maximilians-Universität** (LMU) in Munich. My research focuses on haptic perception in extended reality scenarios, from uncovering the underlying processes of multisensory perception to creating and adapting haptic experiences for virtual and augmented environments.

Professional Experience

Since 02/2021

HCI Researcher | LMU Munich, Germany

Group: Media Informatics – Human-Centered Ubiquitous Media (Prof. Abrecht Schmidt)

- Conducted literature reviews, lab-based user studies, and surveys; analyzed quantitative and qualitative data and developed software and hardware prototypes
- Led and collaborated on research projects in teams of 3–7 people
- Taught master's-level courses and supervised more than 20 bachelor's and master's thesis students
- Recruited and mentored a research assistant
- Developed and coordinated teaching plans across three university chairs, involving four professors and 30+ postdoctoral/doctoral researchers

02/2021 – 04/2022

Software Engineer | Freelance

- Developed real-time 2D and 3D visualizations of live and simulated data in Unity3D for digital twin applications
- Contributed to a cloud-based system for distributing digital twins and 3D meshes
- Developed networking functionality for VR demos

11/2018 – 12/2020

Working Student | Siemens AG, Munich, Germany

VR/AR Development for R&D Department Simulation & Digital Twins

Design and development of software applications:

- High-fidelity prototypes as well as shipped products and solutions
- Focus on 3D real-time applications, virtual reality, and augmented reality
- Cross-platform real-time collaboration and networking framework

Education

Since 2021

Ph.D. in Human-Computer Interaction | LMU Munich, Germany

Dissertation: Designing Haptic Experiences Through Sensory Illusions
Focus: haptics & multimodal perception, extended reality (XR), user studies, prototyping, quantitative and mixed-methods evaluations

2018 – 2021

M. Sc. in Human-Computer Interaction | LMU Munich, Germany

Grade: 1.0 (*very good*, equivalent to a GPA of 4.0/4.0)
Focus: virtual reality, haptics, interaction design, human-drone interaction

2012 – 2018

B. Sc. in Online Media | Hochschule Furtwangen University (HFU), Germany

Grade: 1.4 (*very good*, equivalent to ~3.7/4.0 GPA)
Focus: natural language interfaces, virtual reality, UX research & design

Skills

Languages:	German (native), English (business fluent)
Software/Hardware:	C#, Python, JavaScript, Unity3D, 3D Modeling & Printing, machine learning (supervised learning, reinforcement learning)
Research Methods:	User studies, quantitative & mixed methods, psychometric methods, physiological measurements, interviews, structured literature reviews (SLR), laboratory studies, online surveys
Data Analysis:	Python, R, parametric & non-parametric tests, linear regressions, mixed models, psychophysical analysis, EEG analysis

Academic Service

Reviewing:	CHI'22-26, ToCHI'23, UIST'23+25, IMWUT'26, ToH'25, EuroHaptics'26, HIHC'25, MuC'23-25, Interact'21, AH'22+24+26, TEI'23-24. 5 Special Recognitions for Outstanding Reviews (2x CHI, 2x UIST, 1x MuC)
Student Volunteer:	CHI'22+23
Program Committee:	CHI'27, AH'26, MuC'24+25

Selected Teaching & Supervision

Human-Computer Interaction 2, Teaching Assistant, 50-150 M.Sc. students, 7 semesters
Practical Virtual Reality, Lecturer for Practical Course, 16-20 M.Sc. students, 5 semesters
Practical Reinforcement Learning, Lecturer for Practical Course, 16-20 M.Sc. students, 3 semesters
Practical Game Development, Lecturer for Practical Course, 16-20 M.Sc. students, 2 semesters
Practical Augmented Reality, Lecturer for Practical Course, 16-20 M.Sc. students, 1 semester
Supervised 12+ M.Sc. Theses & 8+ B.Sc. Theses
Recruited and mentored a research assistant

Industry Awards

Unity Awards 2020 from Unity Technologies – Best project in Automotive, Transportation & Manufacturing – for **"Virtual Simulation Lab by Siemens"**

Industry VR Award 2018 from VR Now Con & Awards – for Project **"B. Braun Aesculap Spine VR"**

Publications

Yannick Weiss, Dennis Stanielewitz, Steeven Villa. 2027. Evaluating and Optimizing Fingertip-Free Cutaneous Haptics for Mixed Reality Interactions. In *Pacchierotti, C., MacLean, K.E., van Erp, J.B. (eds) Haptics: Understanding Touch; Technology and Systems; Applications and Interaction. EuroHaptics 2026. Lecture Notes in Computer Science, vol 16593*. Springer, Cham. https://doi.org/10.1007/978-3-032-32230-2_36

Yannick Weiss, Dominic Lenz, and Steeven Villa. 2026. Thermal Illusions Reliably Shift Perceived Object Temperatures Across Materials in Mixed Reality. In *Proceedings of the Augmented Humans International Conference 2026 (AHs '26)*. Association for Computing Machinery, New York, NY, USA, 167–176. <https://doi.org/10.1145/3795011.3795037>

Yannick Weiss, Steeven Villa, Moritz Ziarko, and Florian Müller. 2025. Manipulating Stiffness Perception of Compliant Objects While Pinching in Virtual Reality. In *Proceedings of the 2025 31st ACM Symposium on Virtual Reality Software and Technology (VRST '25)*. Association for Computing Machinery, New York, NY, USA, Article 48, 1–11. <https://doi.org/10.1145/3756884.3765988>

Yannick Weiss, Marlene Eder, Oguzhan Cesur, and Steeven Villa. 2025. Quantifying the Effect of Thermal Illusions in Virtual Reality. In *Proceedings of the 2025 31st ACM Symposium on Virtual Reality Software and Technology (VRST '25)*. Association for Computing Machinery, New York, NY, USA, Article 52, 1–11. <https://doi.org/10.1145/3756884.3766009>

Yannick Weiss, Julian Rasch, Jonas Fischer and Florian Müller. 2025. Investigating the Effects of Haptic Illusions in Collaborative Virtual Reality. In *IEEE Transactions on Visualization and Computer Graphics*, vol. 31, no. 11, pp. 10109-10119, Nov. 2025, doi: 10.1109/TVCG.2025.3616760.

Yannick Weiss, Albrecht Schmidt and Steeven Villa. 2025. Electrophysiological Correlates for the Detection of Haptic Illusions. In *IEEE Transactions on Haptics*, vol. 18, no. 3, pp. 582-594, July-Sept. 2025, doi: 10.1109/TOH.2025.3578076

Steeven Villa, Finn Jacob Elijah Krammer, **Yannick Weiss**, Robin Welsch, and Thomas Kosch. 2025. Understanding the Influence of Electrical Muscle Stimulation on Motor Learning: Enhancing Motor Learning or Disrupting Natural Progression? In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 366, 1–17. <https://doi.org/10.1145/3706598.3714183>

Steeven Villa, Robin Neuhaus, **Yannick Weiss**, and Marc Hassenzahl. 2024. Exploring Virtual Reality as a Platform for Early-Stage Design for Human Augmentation Technologies. In *Proceedings of the 23rd International Conference on Mobile and Ubiquitous Multimedia (MUM '24)*. Association for Computing Machinery, New York, NY, USA, 464–466. <https://doi.org/10.1145/3701571.3703386>

Francesco Chiossi, **Yannick Weiss**, Thomas Steinbrecher, Christian Mai and Thomas Kosch. 2024. Mind the Visual Discomfort: Assessing Event-Related Potentials as Indicators for Visual Strain in Head-Mounted Displays. In *2024 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, Bellevue, WA, USA, 2024, pp. 150-159, doi: 10.1109/ISMAR62088.2024.00029

Steeven Villa, **Yannick Weiss**, Mei Yi Lu, Moritz Ziarko, Albrecht Schmidt, and Jasmin Niess. 2024. Envisioning Futures: How the Modality of AI Recommendations Impacts Conversation Flow in AR-enhanced Dialogue. In *Proceedings of the 26th International Conference on Multimodal Interaction (ICMI '24)*. Association for Computing Machinery, New York, NY, USA, 182–193. <https://doi.org/10.1145/3678957.3685731>

Yannick Weiss, Steeven Villa, Jesse W Grootjen, Matthias Hoppe, Yasin Kale, and Florian Müller. 2024. Exploring Redirection and Shifting Techniques to Mask Hand Movements from Shoulder-Surfing Attacks during PIN Authentication in Virtual Reality. In *Proc. ACM Hum.-Comput. Interact.* 8, *MHCI*, Article 257 (September 2024), 24 pages. <https://doi.org/10.1145/3676502>

Steeven Villa, **Yannick Weiss**, Niklas Hirsch, and Alexander Wiethoff. 2024. An Examination of Ultrasound Mid-air Haptics for Enhanced Material and Temperature Perception in Virtual Environments. In *Proc. ACM Hum.-Comput. Interact.* 8, *MHCI*, Article 243 (September 2024), 21 pages. <https://doi.org/10.1145/3676488>

Carolin Stellmacher, Florian Mathis, **Yannick Weiss**, Meagan B. Loerakker, Nadine Wagener, and Johannes Schöning. 2024. Exploring Mobile Devices as Haptic Interfaces for Mixed Reality. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 422, 1–17. <https://doi.org/10.1145/3613904.3642176>

Julian Rasch, Florian Perzl, **Yannick Weiss**, and Florian Müller. 2024. Just Undo It: Exploring Undo Mechanics in Multi-User Virtual Reality. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*. Association for Computing Machinery, New York, NY, USA, Article 952, 1–14. <https://doi.org/10.1145/3613904.3642864>

Marco Kurzweg*, **Yannick Weiss***, Marc O. Ernst, Albrecht Schmidt, and Katrin Wolf. 2024. Survey on Haptic Feedback through Sensory Illusions in Interactive Systems. In *ACM Comput. Surv.* 56, 8, Article 194 (August 2024), 39 pages. <https://doi.org/10.1145/3648353>, *Equal contribution

Yannick Weiss, Steeven Villa, Albrecht Schmidt, Sven Mayer, and Florian Müller. 2023. Using Pseudo-Stiffness to Enrich the Haptic Experience in Virtual Reality. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*. Association for Computing Machinery, New York, NY, USA, Article 388, 1–15. <https://doi.org/10.1145/3544548.3581223>

Jakob Carl Uhl, Helmut Schrom-Feiertag, Georg Regal, Linda Hirsch, **Yannick Weiss**, and Manfred Tscheligi. 2023. When Realities Interweave: Exploring the Design Space of Immersive Tangible XR. In *Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '23)*. Association for Computing Machinery, New York, NY, USA, Article 67, 1–4. <https://doi.org/10.1145/3569009.3571843>

Marco Kurzweg, Simon Linke, **Yannick Weiss**, Maximilian Letter, Albrecht Schmidt, Katrin Wolf. 2023. Assignment of a Vibration to a Graphical Object Induced by Resonant Frequency. In: *Abdelnour Nocera, J., Kristín Lárusdóttir, M., Petrie, H., Piccinno, A., Winckler, M. (eds) Human-Computer Interaction – INTERACT 2023. INTERACT 2023. Lecture Notes in Computer Science*, vol 14142. Springer, Cham. https://doi.org/10.1007/978-3-031-42280-5_33

Katrin Wolf, Marco Kurzweg, **Yannick Weiss**, Stephen Brewster, and Albrecht Schmidt. 2022. Visuo-Haptic Interaction. In *Proceedings of the 2022 International Conference on Advanced Visual Interfaces (AVI '22)*.

Association for Computing Machinery, New York, NY, USA, Article 89, 1–4.
<https://doi.org/10.1145/3531073.3535260>

Daniel Hepperle, **Yannick Weiß**, Andreas Siess, Matthias Wölfel. 2019. 2D, 3D or speech? A case study on which user interface is preferable for what kind of object interaction in immersive virtual reality. In *Computers & Graphics*, Volume 82, 2019, Pages 321-331, ISSN 0097-8493. <https://doi.org/10.1016/j.cag.2019.06.003>

Yannick Weiß, Daniel Hepperle, Andreas Sieß and Matthias Wölfel. 2018. What User Interface to Use for Virtual Reality? 2D, 3D or Speech—A User Study. In *2018 International Conference on Cyberworlds (CW)*, Singapore, 2018, pp. 50-57, doi: 10.1109/CW.2018.00021

Michael Braun, Sarah Theres Völkel, Gesa Wiegand, Thomas Puls, Daniel Steidl, **Yannick Weiß**, and Florian Alt. 2018. The Smile is The New Like: Controlling Music with Facial Expressions to Minimize Driver Distraction. In *Proceedings of the 17th International Conference on Mobile and Ubiquitous Multimedia (MUM '18)*. Association for Computing Machinery, New York, NY, USA, 383–389. <https://doi.org/10.1145/3282894.3289729>