

Johann Wentzel, PhD

HCI Researcher and Technical Prototyper • Virtual and Augmented Reality • Accessibility

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Experience

Apple

Cupertino, CA

Interaction Software Prototyper

Jan 2025 – Present

- Designing interaction techniques for input devices through rapid prototyping and user testing, to inform hardware decisions.
- Coding interactive prototypes and running user studies, providing empirical results to sensor algorithms and UX teams.
- Building reusable user study infrastructure across device categories including wearables, AR/VR, mobile, and AI agents.

University of Waterloo

Waterloo, ON

Graduate Researcher and Teaching Assistant

Sept 2018 – Dec 2024

- Published research in human-computer interaction (e.g. [1](#), [2](#), [3](#), [4](#)) combining user studies, prototyping, and experiments.
- Built VR/AR prototypes and experiments using Unity, SteamVR, GPT models, PyTorch, WebXR, and MediaPipe.
- Established partnerships with local accessibility foundations to define and implement VR accessibility research agendas.

Meta

New York, NY

Research Scientist Intern, Input Explorations

Sept 2022 – Jan 2023

- Developed AR and VR interaction techniques in Unity, utilizing eye tracking and EMG neuromotor signal transformer models.
- Developed, facilitated, and disseminated a 16-participant input experiment to evaluate AR/VR eye tracking accuracy.
- Used quantitative methods to reveal scientific findings as well as create a gaze dynamics dataset for product research.

Microsoft Research

Redmond, WA (Remote)

Research Intern, Ability Team

Jun 2022 – Sept 2022

- Designed and ran VR accessibility research experiments involving multimodal VR input, using WebXR and Javascript.
- Designed and implemented accessible VR interaction prototypes, accompanied by documentation and interactive demos.

Research Intern, Ability Team

May 2021 – Aug 2021

- Wrote and published an accessibility paper using qualitative methods to investigate multi-device input configurations for people with mobility limitations. ([more info](#))
- Coordinated cross-functional collaboration across Xbox and Accessibility teams to develop a qualitative research agenda.

Autodesk Research

Toronto, ON

Research Intern, UI Research Group

Jan 2020 – May 2020

- Primary author and sole Unity developer for a research paper on hybrid VR-desktop interfaces, resulting in a patent and conference publication. ([more info](#))
- Second author of a conference publication implementing generative AI to create typefaces and designs. ([more info](#))

Education

PhD, Computer Science (Human-Computer Interaction) – University of Waterloo ([dissertation](#)) 2020 – 2024

Master of Mathematics, Computer Science – University of Waterloo ([thesis](#)) 2018 – 2020

Bachelor of Science, Computer Science – University of Calgary ([thesis](#)) 2011 – 2017

Bachelor of Commerce, Business Technology Management – University of Calgary 2011 – 2017

Sample Publications

Full list: johannwentzel.ca/cv

[2] **Johann Wentzel**, Alessandra Luz, Martez Mott, Daniel Vogel. 2025. *MotionBlocks: Modular Geometric Motion Remapping for More Accessible Upper Body Movement in Virtual Reality*. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '25). ([more info](#))

[1] **Johann Wentzel**, Greg d'Eon, and Daniel Vogel. 2020. *Improving Virtual Reality Ergonomics through Reach-Bounded Non-Linear Input Amplification*. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '20). ([more info](#)) * **Best Paper Honourable Mention (top 5% of submitted papers)**

Skills

Research: Controlled experiments, user studies, UX research, surveys, interviews, statistical data analysis

Programming Languages: C#, Swift, Python, R, HTML, CSS, Javascript, Objective-C, C++, SwiftUI

Dev tools: Unity, Xcode, ARKit, RealityKit, Android Studio, Bootstrap, React, NumPy, jQuery, NodeJS, Git, OpenCV

Design tools: Figma, Sketch, Balsamiq, Adobe Illustrator, Final Cut Pro