

Johann Wentzel

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

1 (403) 464 7217

hello@johannwentzel.ca

johannwentzel.ca

linkedin.com/in/johannwentzel

Education

PhD, Computer Science (Human-Computer Interaction) – University of Waterloo	<i>Graduating Fall 2024</i>
Master of Mathematics, Computer Science – University of Waterloo (thesis)	<i>2018 – 2020</i>
Bachelor of Science, Computer Science – University of Calgary (thesis)	<i>2011 – 2017</i>
Bachelor of Commerce, Business Technology Management – University of Calgary	<i>2011 – 2017</i>

Experience

Expressive Input & Interaction Lab, University of Waterloo

Waterloo, ON

Graduate Researcher and Teaching Assistant

Sept 2018 – Present

- Authored and presented multiple qualitative and quantitative research papers (e.g. [1](#), [2](#), [3](#)) in human-computer interaction.
- Developed experiments and technical prototypes using Unity, SteamVR, GPT-4, TensorFlow, OpenXR, and MediaPipe.
- Established partnerships with local accessibility foundations to design and implement VR accessibility research agendas.

Meta Reality Labs

New York, NY

Research Scientist Intern, Input Explorations

Sept 2022 – Jan 2023

- Designed and developed AR and VR interaction techniques utilizing eye tracking and EMG transformer models.
- Presented 2 new AR interaction techniques to colleagues and senior leadership at internal demo events.
- Created, facilitated, and disseminated a 16-participant user study to evaluate AR/VR eye tracking input accuracy.
- Statistically analyzed study data to create scientific findings as well as a gaze dynamics dataset for product research.

Microsoft Research

Redmond, WA (Remote)

Research Intern, Ability Team

Jun 2022 – Sept 2022

- Primary author and developer for a VR accessibility research experiment involving multimodal VR input and 3D input remapping, 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 [\[2\]](#) using qualitative methods to investigate the use of multi-device input configurations by 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 [\[3\]](#). ([more info](#))
- Second author of a conference publication implementing generative AI to create intentionally “ugly” designs. ([more info](#))

Sample Publications

[Full list: johannwentzel.ca/cv](#)

- [\[3\]](#) **Johann Wentzel**, Fraser Anderson, George Fitzmaurice, Tovi Grossman, Daniel Vogel. 2024. *SwitchSpace: Understanding Context-Aware Peeking Between VR and Desktop Interfaces*. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24). ([more info](#))
- [\[2\]](#) **Johann Wentzel**, Sasa Junuzovic, James Devine, John Porter, Martez Mott. 2022. *Understanding How People with Limited Mobility Use Multi-Modal Input*. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '22). ([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