

# Yiting Liu

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## EDUCATION

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- 08/2023 – Present      *North Carolina State University*  
*Ph.D. in Human Factors and Applied Cognition*  
**Cumulative GPA:** 4.0  
**Relevant Coursework:** Human Factors Psychology, Cognitive Processes, Visual Perception, Quantitative Study in Psychology
- 01/2019 – 05/2023      *North Carolina State University*  
**B.A. in Psychology**  
**Major:** Psychology | **Minor:** Social Work  
**Cumulative GPA:** 3.88 | **Major GPA:** 4.0  
**Relevant Coursework:** Psychology Research Methods, Cognitive Processes, Biological Psychology, Statistics I & II, Applied Psychology, Industrial & Organizational Psychology.

## RESEARCH EXPERIENCE

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- 08/2024 – Present      *Font Size, Line Spacing, and Luminance Contrast: A Comprehensive Study on Reading Legibility*  
**Role:** Primary Researcher  
**Advisor:** Dr. Yingchen He  
**Tools:** Python (Stimuli Development), R & SPSS (Data Analysis)  
**Key Contributions:**
- Designed and implemented experimental materials adhering to Web Content Accessibility Guidelines (WCAG) standards.
  - Addressing gaps in accessibility research by testing a diverse user base in realistic settings.
  - Research findings are expected to provide actionable insights for improving text design and supporting inclusive UX design practices.
- 01/2024– Present      *Assessing a Tactile Feedback System for Spatial Navigation*

**Role:** Primary Researcher

**Advisor:** Dr. Yingchen He

**Tools:** Qualtrics (Participant Management), SUS (Usability Assessment), Python/SAS/R (Data Analysis).

**Key Contributions:**

- Designed and implemented experimental tasks to evaluate tactile and auditory feedback, addressing gaps in accessibility research.
- Leveraged SUS to measure user experience, identifying usability challenges specific to sensory feedback in navigation devices.
- Proposed actionable recommendations to enhance accessibility and improve user satisfaction with navigation technologies.
- Contributed insights on integrating accessibility considerations with user-centered design practices.

01/2022 – Present

***Effect of Scaling on 3D-Printed Replicas for Blind and Low-Vision Museum Visitors***

**Role:** Primary Researcher

**Advisor:** Dr. Yingchen He

**Tools:** 3D modeling software (Autodesk Fusion 360, Meshmixer), R/SPSS(data analysis), Qualtrics (survey design).

**Key Contributions:**

- Developed optimized 3D-printed replicas tailored for tactile exploration, addressing accessibility challenges in visual-centric public spaces.
- Conducted user studies to identify ideal scaling and design features for effective tactile feedback.
- Proposed design guidelines for museums to improve accessibility for blind and low-vision visitors, contributing to inclusive public space standards.
- Results provided a foundation for integrating tactile elements into exhibit design, enhancing multisensory museum experiences.

01/2022 – 05/2023

***Screen Reader Voices: Effects of Pauses and Voice Changes on Comprehension***

**Role:** Research Assistant

**Advisor:** Dr. Yingchen He

**Responsibilities:**

- Conducted an extensive literature review to identify research gaps and inform study design.
- Facilitated experimental interviews with 40+ participants, ensuring high data quality and adherence to research protocols.
- Performed preliminary data analysis using R, identifying trends in participant comprehension and engagement.
- Collaborated with the primary researcher to refine research procedures based on pilot study findings and participant feedback.

**Key Contribution:**

- Supported the primary researcher in refining research procedures and generating actionable recommendations for assistive technology design.

**PROFESSIONAL EXPERIENCE**

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08/2023 – 12/2023

***Friends of Oberlin Village Signage Usability Test and Update***

**Role:** Team Leader

**Supervisor:** Dr. Anne McLaughlin

**Objective:** Led a usability study to evaluate and enhance the effectiveness of signage for Friends of Oberlin Village, focusing on improving user comprehension and navigation.

**Responsibilities:**

- Conducted heuristic evaluations and user analysis to identify pain points in current signage design.
- Performed task analyses and administered usability metrics (SEQ, SUS, NASA-TLX) to assess user experience and cognitive load.
- Designed low-fidelity prototypes based on usability findings to address user needs and improve overall accessibility.
- Compiled findings into a formal report and delivered a professional presentation to stakeholders, outlining actionable recommendations.

**Key Contributions:**

- Improved stakeholder understanding of user-centric design principles through clear and actionable insights.
- Delivered a redesigned signage prototype that enhanced usability and user satisfaction, supported by quantitative and qualitative data.

01/2021 – 12/2022

***Chinese School of Chapel Hill***

**Role:** Teaching Assistant

**Supervisor:** Qing Shi

**Responsibilities:**

- Assisted in organizing and managing class schedules, ensuring smooth and timely operations.
- Prepared and uploaded teaching materials on Google Classroom to support a dynamic and engaging learning environment.
- Graded assignments and provided constructive feedback to help students improve their academic performance.
- Monitored students' progress and offered personalized guidance to address individual learning needs.

**Key Contributions:**

- Enhanced classroom efficiency by streamlining schedule management and lesson preparation.
- Fostered a supportive learning environment, resulting in improved student engagement and academic outcomes.

## **PUBLICATIONS & PRESENTATIONS**

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Liu Y., & He. Y. (Accepted). *Effect of Scaling on 3D-Printed Replicas for Blind and Low-Vision Museum Visitors*, Proceedings of the Human Factors and Ergonomics Society Annual Meeting.

Liu Y., & He. Y. (2025, April). *Font Size, Line Spacing, and Luminance Contrast: Interactive Effects on Text Legibility* [Poster presentation]. 2025 North Carolina Cognition Conference, Chapel Hill, NC.

Liu, Y., & He, Y. (2023, March). *Effect of Scaling on 3D-Printed Replicas for Blind and Low-Vision Museum Visitors* [Poster presentation]. 2023 NCSU Equity Research Symposium, Raleigh, NC.

Liu, Y., & He, Y. (2023, February) *Effect of Scaling on 3D-Printed Replicas for Blind and Low-Vision Museum Visitors* [Poster presentation]. 2023 North Carolina Cognition Conference, Winston-Salem, NC.

Liu, Y., & He, Y. (2022, September). *Effect of Scaling on 3D-Printed Replicas for Blind and Low-Vision Museum Visitors* [Poster presentation]. 2022 NCSU Undergraduate Research & Creativity Symposium, Raleigh, NC.

## **FELLOWSHIPS & GRANTS**

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12/2022 – 05/2023    *NCSU CHASS Diversity Mini-Grant -- \$810*  
*NC State University*

## **AWARDS & HONORS**

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08/2019 – 12/2022    *Dean's List, 6 Semesters*  
*NC State University*

05/2023                *Summa Cum Laude Degree Honors*  
*NC State University*

## **AD-HOC REVIEWS**

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*Translational Vision Science & Technology*, 1 article, student co-reviewer

*Visual Cognition*, 1 article, student co-reviewer

*Human Factors: The Journal of the Human Factors and Ergonomics Society*, 1 article, student co-reviewer

## **SERVICE**

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01/2025 – Present    *HFAC Student Representative, Wellness and Belonging Committee, NC State University*

## **CERTIFICATES**

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*CITI Conflicts of Interest (NC State University)*, 01/2022

*CITI Responsible Conduct of Research (NC State University)*, 01/2022

*Group 2: Social-Behavioral-Educational Researchers (NC State University)* 01/2022

QPR Certification -- Suicide Prevention Training, 01/2023

Google Data Analytics Professional Certificate, 08/2024

## **UNDERGRADUATE MENTORSHIP**

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J.H. (Spring 2022 –Fall 2022)

E.D. (Spring 2023 – Spring 2024)

L.C. (Summer 2024 – Fall 2024)

T.K. (Spring 2025 )