Xucong Hu

MSc in Psychology · Zhejiang University

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Education

Zhejiang University (ZJU)

Hangzhou, China

M.S. in Psychology

Sep. 2024 - Jun. 2027 (Expected)

- **GPA:** 4.0/4.0
- **Advisor:** Jifan Zhou (Professor)

Southwest University (SWU)

Chongqing, China

B.S. in Psychology

Sep. 2020 - Jun. 2024

- **GPA:** 4.13/5.0 (2/103)
- **Award:**
  - First-Class Academic Scholarship (2021–2023, top 3 students in college per year)
  - Excellent Undergraduate Thesis Award (2024, Top 10% among graduates in college)
  - Challenge Cup Bronze Award (2022, Top 1% among college projects, Provincial-level award)
  - Provincial Undergraduate Training Program for Innovation and Entrepreneurship, (2023, awarded to top 1% of undergraduates)

Publication

Published

- **Hu, X.**, Xu, H., Chen, H., Shen, M., & Zhou, J. (2025). Good to see you R2-D2: Inducing spontaneous perspective-taking towards non-human agents through human-like gaze and reach. *Cognition, 259*, 106101. **(SSCI Q1)**
- Zhao, Y., **Hu, X.**, Zhou, J., Shen, M., & Xu, H. (2025). Enhancement of joint flanker effect in intergroup competition. *PsyCh Journal, 14*(1), 94–102. **(SSCI Q3)**
- **Hu, X.**, & Tong, S. (2023). Effects of robot animacy and emotional expressions on perspective-taking abilities: a comparative study across age groups. *Behavioral Sciences, 13*(9), 728. **(SSCI Q2)**
- Zhu, J., Yang, Z., Ma, R., Yin, L., & **Hu, X**. (2022). Face beauty or soul beauty? The influence of facial attractiveness and moral judgment on pain empathy. *Frontiers in Psychology, 13*, 990637. **(SSCI Q1)**
- **Hu, X.**, Zhou, J., & Shen, M. (2024, Dec). Spontaneous perspective-taking toward multi-view robots: Evidence supporting the social agent model. *Annual Conference on Industrial Psychology and New Productivity*. **(Oral Report)**.
- **Hu, X.** (2022, May). The uncanny valley effect and induced compensatory consumption behavior in language conditions. *Lecture Notes in Education Psychology and Public Media, 4*, 426–436. **(Oral Report)**

Submitted

- **Hu, X.**, Xu, H., Xu, E., Chen, H., Shen, M., & Zhou, J. (2025). Seeing through Janus' Eyes: How Humans Spontaneously Adopt Multiple Perspectives of Non-human Agents. (submitted to *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*)
- **Hu, X.**, Xu, E., Xu, H., Shen, M., & Zhou, J. (2025). Causal Relationship Between Robot Perception and Behavior: A User-Centered Explainability Approach. (submitted to *International Journal of Human-Computer Interaction*)

Pending Submission

- **Hu, X.**, Hu, Q., Yu, T., Shen, M., & Zhou, J. (2025). Do Robots Need a Head and Legs? How Appearance Features Predict Robots' Perceived Social Interaction Potential (in submission to *ACM/IEEE International Conference on Human Robot Interaction (HRI)*)

Research Experience

Building Human-Robot Interaction from the human-human Interaction Perspective

Hangzhou, China

Project Leader, Social Cognition Lab, Department of Psychology and Behavioral Sciences, Zhejiang University

Jun. 2023 - Current

(Advisor:Jifan Zhou)

- **Brief introduction:** The project aims to develop design guidelines for social robots, covering behavioral and appearance aspects, to enable natural human-robot interactions that bystanders can quickly understand, just as they would in human-human interactions.
- **Method:** Designed and conducted online experiments using established social interaction paradigms (e.g., joint action, theory of mind) with large participant samples to investigate which robot features, during HRI, can elicit psychological experiences in human participants that are similar to those experienced during human-human interactions (e.g., spontaneous perspective-taking when interacting with avatars of varying anthropomorphism).
- **Contribution:** Our findings revealed that merely anthropomorphic appearances are not optimal for social robots. More importantly, robots should exhibit human-like patterns of information processing: having a head and eyes to express the *perception* of external information through gaze and head turns, and having legs and a face to *respond* to perceived information through movement and facial expressions.

Predicting Cognitive Load in Simulated Command-and-Control Environments

Beijing, China

Research Assistant, Engineering Psychology Lab, Institute of Psychology, Chinese Academy of Sciences (Advisor:Jingyu Zhang)

Apr. 2023 - Aug. 2023

- **Brief introduction:** The project aims at investigating how multimodal physiological data (e.g., heart rate, skin conductance) can be used to prevent cognitive overload in airborne command and control operators.
- **Method:** Developed multi-level command and control scenarios using the Steam game -*Command: Modern Operations* and conducted structured interviews with wargame experts. Collected eye-tracking data with Tobii and physiological data (heart rate, skin conductance) with BIOPAC during experiments.
- **Contribution:** Tested 13 participants with the designed multi-level (low, medium, high) command and control scenarios, which successfully elicited varying levels of cognitive load, as reflected in task performance and situational awareness.

Age Differences in Empathy Toward Anthropomorphic Robot Faces

Beijing, China

Research Assistant, H+ Lab, Department of Psychology, Tsinghua University (Advisor: Song Tong)

Sep. 2022 - Aug. 2023

- **Brief introduction:** The project aims to investigate how older adults empathize with varying levels of robot face anthropomorphism to inform the design of robots that better serve aging populations.
- **Method:** Created robot faces with varying levels of anthropomorphism using FantaMorph and invited 30 older adults (65+) to perform a simple object-moving task with these robots, where some objects were only visible to the robot (testing perspective-taking ability). Examined under which robot conditions older adults demonstrated optimal collaboration performance.
- **Contribution:** Found that older adults collaborated best with robots of low and moderate anthropomorphism, while performance dropped with highly anthropomorphic robots, suggesting lower anthropomorphism should be prioritized in robot design for older adults.

Skill

Coding

- **Statistics:** R, Python (statsmodels, scipy, PyMC), SPSS, Mplus, Bayesian Modeling, Factor Analysis, Structural Equation Modeling
- **Machine Learning:** Python (scikit-learn, XGBoost, PyTorch, SHAP), Reinforcement Learning (Q-learning)
- **Frontend:** HTML, CSS, JavaScript, React, NEXT.js
- **Backend:** Node.js
- **Software Design:** Photoshop, Figma, Unity

Language

- **English:** GRE (159+169+4.0), IELTS (7.0)

Teaching

The Advanced Psychological Measurement

Hangzhou, China

Teaching Assistant, Department of Psychology and Behavioral Sciences, Zhejiang University

Apr. 2025 - Jun. 2025

- Delivered presentations introducing commonly used experimental paradigms in psychology to enhance students' research design skills.
- Explained the mathematical foundations of advanced psychological methods, including cognitive modeling approaches, during class and office hours.

Reviewer

- **Behavioral Sciences** (SSCI Q2)

Extracurricular Activity

Library Volunteer (Municipal Library)

Maanshan, China

Volunteer

Jun. 2022 - Jul. 2022

- Assisted with organizing and shelving books to maintain library order and accessibility.
- Helped patrons locate resources and provided basic guidance on library services.

University Student Union (Communication & Design Division) (SWU)

Chongqing, China

Division Head

Sep. 2021 - Jun. 2022

- Organized major on-campus events such as anthem competitions, student congresses, and club fairs.
- Designed posters and promotional videos, and managed the student union's social media accounts.
- Handled venue audio, lighting, and equipment to support events smoothly.

Class Academic Representative (SWU)

Chongqing, China

Academic Representative

Sep. 2020 - Jun. 2021

- Assisted classmates with academic planning and coordinated study groups to improve overall performance.
- Acted as a liaison between the class and faculty, collecting and communicating feedback on course progress.