Hao Ling

CHI 2026 Honourable Mention · Behavioral & Experimental Economics · Prosocial Behavior · Cross-Media Causal Comparison

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Research Statement

I use experiments to ask how a new medium changes the conditions under which trust is formed. My training in behavioral and experimental economics, through incentive-compatible designs, causal identification, and pre-registered analysis, lets me compare physical laboratory, virtual reality, and AI-mediated settings directly, treating the medium as the treatment variable.

Education

Hong Kong University of Science and Technology (Guangzhou) — **Guangzhou, China**

Ph.D. Candidate in Economics — *Sep 2022 – Present (defense pending)*

- Advisors: Prof. Xu Zhang, Prof. Mingming Fan
- Key Student Researcher on 2 grants (RMB 150,000 total)

The Chinese University of Hong Kong, Shenzhen — **Shenzhen, China**

M.Sc. in Economics — *Sep 2020 – Jun 2022*

Southwestern University of Finance and Economics — **Chengdu, China**

B.A. in Finance & Accounting — *Sep 2016 – Jun 2020*

Publications

Peer-Reviewed / Accepted

Trust Formation in AI Delegation: The Interplay of Explainability and Anthropomorphism

Honourable Mention (Top 5%)

- Chenyang Li†, Zhixuan Deng†, **Hao Ling**†, & Xu Zhang †Co-first authors, equal contribution
- *ACM CHI 2026* (CCF-A) · Barcelona, April 2026 · DOI: 10.1145/3772318.3793215
- **Design:** Study 1 online experiment (N=900) + Study 2 lab eye-tracking (N=57, Ergoneers Dikablis 100Hz). 2×2 factorial: XAI × Anthropomorphism.
- **Core finding:** Context-dependent interaction: in low-engagement online settings, combining XAI and anthropomorphism reduces trust vs. XAI alone (β=18.44 vs. 23.14); in high-engagement lab settings, the combination is complementary (β=34.81).
- **Mechanism:** Eye-tracking reveals XAI acts as a cognitive activator, redirecting gaze to the avatar (Icon Ratio: 1.22% → 15.99%), forming a Text→Icon→Text attention loop.

Working Papers

Interpersonal Trust and Trustworthiness in a High-Immersion Virtual Environment

- **Hao Ling** (First author), Xiangyu Xu, & Xu Zhang
- SSRN: https://ssrn.com/abstract=5896843

- Design: 3-group between-subjects (avatar-free VR baseline vs. brief standardized-avatar exposure vs. physical decision condition), N=180.

- Core finding: The baseline and physical conditions are practically equivalent for trust under a stated smallest effect of interest; equivalence for trustworthiness is not established.
- Implication: Brief avatar exposure is associated with a positive but imprecisely estimated change in trust. The study supports a bounded methodological use of high-immersion VR, not general superiority over conventional laboratory experiments.

Cognitive Load as the Hidden Cost of Empathy: VR for Inclusive Design

- Dawei Xiong, Zhijun Ma, **Hao Ling**, Xun Wu, Mingming Fan, & Xu Zhang

- Design: Three-condition comparison of passive video, Non-Emotional VR, and Emotional VR; outcomes include empathy and user-need alignment.

- Core finding: Both VR conditions produced greater empathy gains than passive video, while Emotional VR added no measurable empathy gain over Non-Emotional VR. For user-need alignment, Non-Emotional VR yielded a higher proportion of auditory-focused solutions than both other conditions. The condition with the strongest user-need alignment combined interactive, embodied VR with no added emotional intensification, and its advantage was not accompanied by greater measurable empathy.
- Implication: This pattern suggests that emotional intensity is not a reliable proxy for downstream user-need alignment.

VRization: A Social Science-Informed Framework for Designing and Evaluating VR as a Scientific Instrument

- **Hao Ling**, Zhongyue Zhang, Mingming Fan, & Xu Zhang
- *Working Paper* ·
- **Core contribution:** Identifies the "Instrument Gap": a fundamental mismatch between researchers' experimental ambitions and available VR tools. Proposes three validity criteria, including consequential validity (the cornerstone of experimental economics), which is almost entirely absent from existing VR tool literature.
- **Method:** Two-stage qualitative study: co-design workshops (N=47 interdisciplinary researchers) + expert interviews (N=7), reflexive thematic analysis.

Cognitive-Level Differences in Learning with Multi-User Virtual Reality: A Three-Class Cluster-Randomized Pilot Study in Economics Education

- **Hao Ling**, Chunming Ma, Xu Zhang, Lei Chen, & Yi-Lung Kuo
- *Working Paper* · · Presented at CAERDA 2026

- Pilot: Three classes, N=84 enrolled / N=83 analysed; a shared virtual-farm public-goods game versus an active lecture-discussion comparator.
- Finding: The immediate, task-aligned quiz showed the same directional cognitive-level pattern across the two VR classes, with a larger contrast for higher-order than lower-order items. With only three randomized classes, the estimates are descriptive/model-based rather than adequately cluster-supported causal effects.

Research Grants

Basic and Applied Basic Research Foundation of Guangdong Province **RMB 100,000**

No. 2025A1515010549 · Experimental Investigation of Human Trust and Cooperation in VR *2024 – 2026*

- **Role:** Key Student Researcher: experimental design, VR development, data analysis
- **Output:** 1 accepted CHI paper + 1 working paper

Research on HKUST(GZ) Practices (ROP) in 2025 **RMB 50,000**

Project No. HKUST(GZ)-ROP2025040 · Featured in HKUST(GZ) Opening Ceremony, President's Lecture, 2025 *2025 – 2026*

- **Role:** Key Student Researcher: VR experiment development, course design, data analysis
- **Output:** 1 working paper

Conference Presentations

ACM CHI 2026 **Apr 2026**

"Trust Formation in AI Delegation"

CAERDA 2026 / Apr 2026
"Cognitive-Level Differences in Learning with Multi-User Virtual Reality"

CPLAS Summit **Jun 2025**

"Beyond the Lecture Hall: Using VR to Teach Economics"

ESA World Meeting **Jun 2025**

"Balancing Empathy-Cognition Trade-off: VR for Understanding Visually Impaired Consumers"

AP-PPN Annual Conference **Apr 2024**

VR Experiments Workshop (Organizer)

Technical Skills

VR Development:

- **Unity (C#):** Independent development of multiplayer VR experiments
- **Networking:** Mirror Networking for synchronous multiplayer environments
- **Hardware:** Meta Quest Pro, PICO, VRChat

Experimental Economics Methods:

- **Platforms:** oTree, z-Tree
- **Paradigms:** Trust Game, Public Goods Game, game-theoretic incentive design
- **Physiological:** Eye-tracking integration with behavioral data (Ergoneers Dikablis)

Statistical Analysis:

- **Python:** Pandas, SciPy, Scikit-learn
- **Stata / R:** Econometrics, regression, causal inference
- **MATLAB:** Data preprocessing

Languages: Mandarin (native), English (fluent: academic writing and conference presentations)

Professional Service

Membership: Economic Science Association (ESA)

Membership: ACM (Association for Computing Machinery)

References

Prof. Xu Zhang: Primary PhD Advisor
HKUST (Guangzhou), Social Hub

Contact details available on request.

- Collaborator: CHI 2026, IJHCI; Trust Game working paper

Prof. Mingming Fan: Co-Advisor
HKUST (Guangzhou), Information Hub

- Collaborator: IJHCI; co-supervisor throughout PhD

Prof. Chenyang Li: Co-Author
HKUST (Guangzhou), Social Hub

- Co-Author

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