

# ZHONGHAO HE

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## SUMMARY

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I am Zhonghao, a master's student at the University of Cambridge. I work on AI alignment, interpretability, and human-AI interaction research. My previous work got accepted by NeurIPS, ICML, ACM FAccT, and ICLR (workshop), etc. My major interests are to design machines that help humans learn and think. Currently I focus on two things, to develop truth-seeking AI (Bayesian & exploring truth), and to solve “positive feedback loop” problems in tech products: LLM sycophancy, confirmation bias in reasoning models, social media echo chamber, and polarization. [tinyurl.com/prevailai](https://tinyurl.com/prevailai)

## RESEARCH EXPERIENCE

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### Research Intern - Oxford

*Jan 2026 - July 2026*

Will be working on martingale training with multi-agent systems and truth-seeking AI in open-ended domains, with Prof Jakob Foerster.

### Advisor - Supervised Program for Alignment Research (Remote)

*July 2025 - Present*

Co-mentor three research projects on, Martingale evaluation, alignment with evolving human preference, and open problems in AI Influence.

### Advisor - Algoverse (Remote)

*July 2025 - Oct 2025*

Co-mentor three research projects on, Martingale training, LLM-based simulation benchmark, and subliminal learning.

### Research Engineer - MIT (Remote)

*Jun 2025 - Oct 2025*

Co-lead a project to use RL to infer human goals and levels of comprehension, with Prof Andreea Bobu.

### Research Engineer - CMU (Remote)

*Jan 2025 - Present*

Co-lead “Martingale Score”: We introduce a Bayesian statistical method to evaluate confirmation bias in LLM reasoning, with Profs Maarten Sap & Hirokazu Shirado [A manuscript](#).

### Research Engineer - University of Washington (Remote)

*Oct 2024 - Jun 2025*

Co-led two papers: “The Lock-in Hypothesis”, and “Open Problems in AI Influence”, with Prof Max Kleiman-Weiner [The Lock-in Hypothesis Website](#)

### Researcher - University of Cambridge

*Dec 2023 - Present*

Worked on multiple projects on interpretability, alignment, and agentic safety, with Profs David Krueger, Yaodong Yang, Grace W. Lindsay, and Anya Ivanova.

## EDUCATION

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### University of Cambridge

*Sep 2022 - Jul 2025*

*Mst in AI Ethics*

*Coursework: ML Safety, AI Alignment, AI Ethics, RL, Advanced DL, Algorithm and Data Structure, Mechanistic Interpretability, etc.*

### Stanford University

*May 2019 - Aug 2019*

*Cognitive Science Summer Semester*

*Courses: Mathematics Foundation of Computing, Minds and Machines, Introduction to Neuroscience*

## AWARDS AND GRANTS

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Cosmos Grant on Truth-seeking AI	2025
Foresight Institute AI Safety Research Grant	2025
Lambda Research Grant	2024
Manifund Research Scholarship	2023
Open Philanthropy's Graduate Scholarship	2022

## PUBLICATIONS

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- [1] **Z. He\***, T. Qiu\*, H. Shirado, M. Sap (2025) Stay True to the Evidence: Measuring Belief Entrenchment in LLM Reasoning via the Martingale Score. *NeurIPS 2025*.
- [2] T. Qiu\*, **Z. He\***, T. Chugh, M. Kleiman-Weiner (2025). The Lock-in Hypothesis: Stagnation by Algorithm. *ICML 2025*.
- [3] **Z. He\***, T. Qiu\*, T. Lin, M. Glickman, J. Wihbey, M. Kleiman-Weiner (2025). Position: AI Systematically Rewires the Flow of Ideas. *ICLR 2025 BiAlign Workshop*.
- [4] **Z. He\***, M. Tehenan\*, J. Achterberg, K. Collins, K. Nejad, D. Akarca, Y. Yang, W. Gurnee, I. Sucholutsky, Y. Tang, R. Ianov, G. Ogden, C. Li, K. Sandbrink, S. Casper, A. Ivanova, G. W. Lindsay (2024). Multilevel interpretability of artificial neural networks: leveraging framework and methods from neuroscience.
- [5] J. Ji, T. Qiu, B. Chen, B. Zhang, H. Lou, K. Wang, Y. Duan, **Z. He**, J. Zhou, Z. Zhang, F. Zeng, K. Y. Ng, J. Dai, X. Pan, A. O’Gara, Y. Lei, H. Xu, B. Tse, J. Fu, S. McAleer, Y. Yang, Y. Wang, S. C. Zhu, Y. Guo, W. Gao (2023). AI Alignment: A Comprehensive Survey. Under review at ACM Computing Surveys.
- [6] A. Chan, R. Salganik, A. Markelius, C. Pang, N. Rajkumar, D. Krashenninnikov, L. Langosco, **Z. He**, Y. Duan, M. Carroll, M. Lin, A. Mayhew, K. Collins, M. Molamohammadi, J. Burden, W. Zhao, S. Rismani, K. Voudouris, U. Bhatt, A. Weller, D. Krueger, T. Maharaj (2023). Harms from increasingly agentic algorithmic systems. *Accepted by ACM FAccT 2023*

## PROFESSIONAL SERVICES

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### Invited Talks:

- Oct 2025 UK AI Security Institute
- Oct 2025 University of Michigan
- Sep 2025 Tsinghua University
- Jul 2025 University of Washington
- Feb 2025 Stanford University
- Feb 2025 Cambridge University

### Mentoring:

- Jul 2025 – Oct 2025 Supervised Program for Alignment Research
- Jul 2025 – Oct 2025 Algoverse AI Safety Fellowship