

# Haoran Zhao

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## Education

<b>University of Washington</b> Master of Science in Computational Linguistics   GPA 3.89	2024 – Present
<b>Drexel University</b> Bachelor of Science in Data Science, Minor in Linguistics   GPA 3.85	2021 – 2024
<b>Lanzhou University</b> Bachelor of Science in Computer Science   GPA 3.97	2019 – 2023

## Research Keywords

Social Communication, Pragmatics, Social Relationship, Social Cognition, Politeness, Artificial Intelligence, Rational Speech Act (RSA)

## Academic Experience

<b>Social Interaction Lab, Stanford University</b> - <i>Research Assistant, advised by Prof. Robert Hawkins</i> - Study the polite language production capabilities of humans and LLMs in social contexts	May 2024 - Present
<b>Computational Minds and Machines Lab, University of Washington</b> - <i>Research Assistant, advised by Prof. Max Kleiman-Weiner</i> - Model language use in different social relationships, collaborating with Prof. Robert Hawkins	October 2024 - Present
<b>Computation and Cognition Lab, Stanford University</b> - <i>Research Assistant, advised by Prof. Noah Goodman</i> - Examine LLM's non-literal number understanding (hyperbole & pragmatic halo) abilities	September 2023 - March 2024
<b>CODED Lab, Drexel University</b> - <i>Research Assistant, advised by Prof. Jake Williams</i> - Improve training efficiency in terms of compute and time for neural networks and LMs	September 2022 - June 2024

## Publications

\* Equal Contribution

### Proceedings Papers

- [1] **Zhao, H.**, Hawkins, R.D. (2025). Comparing human and LLM politeness strategies in free production. *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. **[Oral]**
- [2] **Zhao, H.**, Hawkins, R.D. (2025). Polite Speech Generation in Humans and Language Models. *Proceedings of the 47th Annual Conference of the Cognitive Science Society (CogSci)*.
- [3] Tsvilodub, P.\*, Gandhi, K.\*, **Zhao, H.\***, Fränken, J.-P., Franke, M., Goodman, N.D. (2025). Non-literal Understanding of Number Words by Language Models. *Proceedings of the 47th Annual Conference of the Cognitive Science Society (CogSci)*.

## Workshop Papers

- [4] **Zhao, H.** (2024). Large Language Models are Not Inverse Thinkers Quite yet. *ICML Workshop on LLMs and Cognition*.

## Other Publications

- [5] Perko, A., **Zhao, H.**, Wotawa, F. (2023). Optimizing Named Entity Recognition for Improving Logical Formulae Abstraction from Technical Requirements Documents. *The 10th International Conference on Dependable Systems and Their Applications (DSA-2023)*.
- [6] Fang, X., Kalinowski, A., **Zhao, H.**, You, Z., Zhang, Z., An, Y. (2022). Prompt Design and Answer Processing for Knowledge Base Construction from Pre-trained Language Models (KBC-LM). *Challenge @ 21st International Semantic Web Conference (ISWC 2022) CEUR Workshop Proceedings*.

## Preprints

- [7] Long, P., Alice, G.,... **Zhao, H.**, ... et al. (2025). Humanity's last exam, arXiv preprint arXiv:2501.14249.
- [8] **Zhao, H.**, & Williams, J.R. (2023). Bit Cipher—A Simple yet Powerful Word Representation System that Integrates Efficiently with Language Models. *arXiv preprint arXiv:2311.11012*.
- [9] Williams, J.R., & **Zhao, H.** (2023). Explicit Foundation Model Optimization with Self-Attentive Feed-Forward Neural Units. *arXiv preprint arXiv:2311.07510*. 2023.
- [10] Williams, J.R., & **Zhao, H.** (2023). Reducing the Need for Backpropagation and Discovering Better Optima With Explicit Optimizations of Neural Networks. *arXiv preprint arXiv:2311.07498*. 2023.

## Honors and Awards

CBMM Summer Course Fellow at MIT	2025
CRA Outstanding Undergraduate Researcher Award – Honorable Mention	2024
Steinbright Partners Program Award, Drexel University (\$6,000)	2023
Undergraduate Research Mini-Grant, Drexel University (\$2,000)	2023
A. J. Drexel Scholarship, Drexel University	2021–2024
Second-class scholarship for outstanding students, Lanzhou University	Sep 2021
Innovation And Entrepreneurship Scholarship, Lanzhou University	2020–2021

## Teaching Experience

Teaching Assistant, Deep learning for Natural Language Processing (DSCI 691) <i>Department of Information Science, Drexel University</i>	Spring 2024
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## Professional Services

### Conference and Workshop reviewing

NeurIPS – Efficient Natural Language and Speech Processing (ENLSP) workshop 2023, 2024  
NAACL ARR 2024  
ICML – LLMs and Cognition Workshop 2024  
NeurIPS – Behavioral Machine Learning Workshop 2024  
Annual Conference of the Cognitive Science Society 2025  
ICLR – Re-Align Workshop 2025  
NeurIPS – Data on the Brain & Mind workshop 2025

## **Skills**

**Coding:** Python, R, memo, HTML, CSS, JavaScript, SQL, Git, PyTorch, HuggingFace Transformers, Scikit-Learn, spaCy, NLTK, Numpy, Pandas

**Languages:** Mandarin (native), English (proficient), Spanish & Japanese (elementary)