

Li “Harry” Zhang

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RESEARCH INTERESTS

Artificial Intelligence, Machine Learning, Natural Language Processing
Large Language Models, Planning, Reasoning, Agents, Formal Methods, etc.

ACADEMIC AFFILIATIONS

Drexel University, Philadelphia, PA Dec 2024 – Present
Tenure-Track Assistant Professor
University of Pennsylvania, Philadelphia, PA Aug 2019 – Aug 2024
Ph.D. Computer and Information Science GPA: 3.96/4.00
Adviser: Prof. Chris Callison-Burch
Thesis: *Structured Event Reasoning with Large Language Models*
Committee: Prof. Dan Roth (chair), Prof. Rada Mihalcea, Prof. Graham Neubig,
Prof. Mark Yatskar, Dr. Marianna Apidianaki
University of Michigan, Ann Arbor, MI Aug 2015 – Dec 2018
B.S.E. Computer Science, summa cum laude GPA: 3.82/4.00
Mentors: Prof. Rada Mihalcea and Prof. Dragomir Radev

PUBLICATIONS

33 papers peer-reviewed and published in conferences and workshops
▷ 13 first-authored ∪ 6 last-authored
Total citations: 4000+; h-index: 15+
(*Equal contribution; ^Mentored students)
[44] Do Value Vectors in Deep Layers Need Context from the Residual Stream?; Muyu He, Yuchen Liu, Qingya Huang and Li Zhang; in submission to EMNLP 2026.
[43] Robust Asynchronous Planning via Auto-Formalization; Jiayi Zhang*, Jianing Yin*, Ben Zhou and Li Zhang; in submission to EMNLP 2026.
[42] Language Model Planners do not Scale, but do Formalizers? Owen Jiang, Cassie Huang, Ashish Sabharwal and Li Zhang; in submission to EMNLP 2026.
[41] C. Huang, S. Mohan, Z. Yang, S. Tellex and L. Zhang. Language Model as Planner and Formalizer under Constraints. In ACL 2026.
[40] V. Menon, A. Cherney, E. Cloude, **L. Zhang**, T. Do. Evaluating the Impact of LLM-guided Reflection on Learning Outcomes with Interactive AI-Generated Educational Podcasts. In AIME-Con 2025.
[39] C. E. Kayan and L. Zhang. Prototype-Based Dynamic Steering for Large Language Models; in submission to EMNLP 2026.
[38] M. He, Y. Zheng, Y. Liu, Z. An, B. Cai, J. Huang, L. Zhou, F. Liu, Z. Li and L. Zhang. Vision Language Models Cannot Plan, but Can They Formalize? In submission to ECCV 2026 Workshop.
[37] R. Wang and **L. Zhang**. Documentation Retrieval Improves Planning Language Generation. In ACL 2025.
[36] L. Gong, W. Zhu, J. Thomason and **L. Zhang**. Zero-Shot Iterative Formalization and Planning in Partially Observable Environments. In Findings of ACL 2026.
[35] P. Kagitha and **L. Zhang**. Addressing the Challenges of Planning Language Generation. In Findings of ACL 2026.
[34] R. Amonkar, M. Lai, R. Le Bras and **L. Zhang**. Are LLMs Better Formalizers than Solvers on Complex Problems? In submission to COLM 2026.

- [33] Y. Yuan, M. He, A. Shahid, J. Huang, Z. Li, **L. Zhang**. TurnaboutLLM: A Deductive Reasoning Benchmark from Detective Games. In EMNLP 2025.
- [32] Not that Groove: Zero-Shot Symbolic Music Editing; Li Zhang; in submission to ISMIR.
- [31] W. Hu, J. Duan, C. Wei, **L. Zhang**, Y. Zhang and K. Xu. DynaCode: A Dynamic Complexity-Aware Code Benchmark for Evaluating Large Language Models in Code Generation. In Findings of ACL 2025.
- [30] C. Huang and **L. Zhang**. On the Limit of Language Models as Planning Formalizers. In ACL 2025.
- [29] **L. Zhang**, P. Jansen, P. Clark, C. Callison-Burch and N. Tandon. PDDLEGO: Iterative Planning in Textual Environments. In *SEM 2024.
- [28] T. Zhang^{*}, **L. Zhang**^{*}, Z. Hou[^], Z. Wang[^], Y. Gu, P. Clark, C. Callison-Burch and N. Tandon. PROC2PDDL: Open-Domain Planning Representations from Texts. In the 2nd Natural Language Reasoning and Structured Explanations Workshop at ACL 2024.
- [27] Q. Lyu, K. Shridhar, C. Malaviya, **L. Zhang**, Y. Elazar, N. Tandon, M. Apidianaki, M. Sachan and C. Callison-Burch. Calibrating Large Language Models with Sample Consistency. In AAAI 2025; **Area Chair Award**.
- [26] Y. Lal, **L. Zhang**, F. Brahman, B. Majumder, Peter Clark and N. Tandon. One Size Does Not Fit All: Customizing Open-Domain Procedures. In Findings of ACL 2024.
- [25] B. Majumder, B. Dalvi, P. Jansen, O. Tafjord, N. Tandon, **L. Zhang** and C. Callison-Burch, Peter Clark. CLIN: A Continually Learning Language Agent for Rapid Task Adaptation and Generalization. In COLM 2024.
- [24] Z. Hou[^], **L. Zhang** and C. Callison-Burch. *Choice-75: A Dataset on Decision Branching in Script Learning*. In LREC-COLING 2024.
- [23] **L. Zhang**, H. Xu[^], A. Kommula, N. Tandon and C. Callison-Burch. *OpenPI2.0: An Improved Dataset for Entity Tracking in Texts*. In EACL 2024.
- [22] **L. Zhang**^{*}, L. Dugan^{*}, H. Xu^{*} and C. Callison-Burch. *Exploring the Curious Case of Code Prompts*. In preprint. In the 1st Natural Language Reasoning and Structured Explanations Workshop at ACL 2023.
- [21] T. Zhang[^], I. Tham, Z. Hou[^], Jia. Ren, L. Zhou, H. Xu[^], **L. Zhang**, L. Martin, R. Dror, S. Li, H. Ji, M. Palmer, S. Brown, R. Suchocki, C. Callison-Burch. *Human-in-the-Loop Schema Induction*. In preprint; in ACL 2023 Demos.
- [20] Q. Lyu^{*}, S. Havaladar^{*}, A. Stein^{*}, **L. Zhang**, D. Rao, E. Wong, M. Apidianaki and C. Callison-Burch. *Faithful Chain of Thought Reasoning*. In IJCNLP-AACL 2023.
- [19] **L. Zhang**^{*}, H. Xu^{*}, Y. Yang, S. Zhou, W. You, M. Arora and C. Callison-Burch. *Causal Reasoning of Entities and Events in Procedural Texts*. In Findings of EACL 2023.
- [18] **L. Zhang** and C. Callison-Burch. *Language Models are Drummers: Drum Composition with Natural Language Pre-Training*. In 1st Workshop on Creative AI across Modalities at AAAI 2023.
- [17] Y. M. Cho[^], **L. Zhang** and C. Callison-Burch. *Unsupervised Entity Linking with Guided Summarization and Multiple Choice Selection*. In EMNLP 2022.
- [16] S. Gehrmann, ..., **L. Zhang**, ..., H. Zhu, S. Brahma, Y. Li, ... *GEMv2: Multilingual NLG Benchmarking in a Single Line of Code*. In EMNLP 2022.
- [15] A. Srivastava, ..., **L. Zhang**, Q. Lyu and C. Callison-Burch, ... *Beyond the Imitation Game: Quantifying and extrapolating the capabilities of language models*. In TMLR.
- [12] Q. Lyu, H. Zheng, D. Li, **L. Zhang**, M. Apidianaki, and C. Callison-Burch. *Is "my favorite new movie" my favorite movie? Probing the Understanding of Recursive Noun Phrases*. In NAACL 2022.
- [11] **L. Zhang**, I. Jindal and Y. Li. *Label Definitions Improve Semantic Role Labeling*. In NAACL 2022.

- [10] **L. Zhang***, S. Zhou*, Q. Lyu, Y. Yang, G. Neubig and C. Callison-Burch. *Show Me More Details: Discovering Event Hierarchies from WikiHow*. In ACL 2022.
- [9] Y. Yang, A. Panagopoulou, Q. Lyu, **L. Zhang**, M. Yatskar and C. Callison-Burch. *Visual Goal-Step Inference using wikiHow*. In EMNLP 2021; presented at the 2nd Workshop on Advances in Language and Vision Research at NAACL 2021.
- [8] **L. Zhang***, Q. Lyu* and C. Callison-Burch. *Goal-Oriented Script Construction*. In INLG 2021.
- [7] **L. Zhang**, Q. Lyu and C. Callison-Burch. *Intent Detection with WikiHow*. In ACL-IJCNLP 2020.
- [6] **L. Zhang***, Q. Lyu* and C. Callison-Burch. *Reasoning about Goals, Steps, and Temporal Ordering with WikiHow*. In EMNLP 2020; presented at Workshop on Enormous Language Models at ICLR 2021.
- [5] **L. Zhang**, H. Zhu, S. Brahma and Y. Li. *Small but Mighty: New Benchmarks for Split and Rephrase*. In EMNLP 2020.
- [4] **L. Zhang**, S. R. Wilson and R. Mihalcea. *Multi-Label Transfer Learning for Semantic Similarity*. In *SEM 2019 and presented at NAACL 2019.
- [1] C. Finegan-Dollak, J. K. Kummerfeld, **L. Zhang**, K. R. D. Ramanathan, S. Sadasivam, R. Zhang and D. Radev. *Improving Text-to-SQL Evaluation Methodology*. In ACL 2018.

External Funding

- Decision-Embedded Deep Learning for Transit Systems (\$432,572)** 2024 - 2027
NSF
- Inherited from Dr. Kaidi Xu.
- Alexa Prize TaskBot Challenge (\$250,000)** 2021 - 2022
Amazon
- Primarily authored, applied, and received a stipend award of \$250,000 to lead University of Pennsylvania's effort in the Alexa Prize TaskBot Challenge 2021.

INDUSTRY EXPERIENCE

- Research Intern** Apr 2023 – Dec 2023
Allen Institute for Artificial Intelligence (AI2) Seattle, WA
- Research Intern** Apr 2019 – Jun 2019; May 2021 – Aug 2021
IBM Research San Jose, CA
- Software Engineer Intern** May 2017 – Aug 2017
Goldman Sachs Group, Inc. Jersey City, NJ

ACADEMIC SERVICE

- Chair**
- Area Chair: EMNLP 2026, ACL2026, NAACL 2025, ACL 2025, EMNLP 2025, ACL 2025, ACL 2024, EMNLP 2024, COLING 2024
 - Program Chair: Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL) 2023
 - Program Chair: 1st Workshop on Data Science with Human in the Loop at EMNLP 2022 2022
 - Session Chair: ACL 2026, ACL 2020
- Reviewer**
- Association of Computational Linguistics (ACL) recurring
 - North American Chapter of ACL (NAACL) recurring
 - Empirical Methods in Natural Language Processing (EMNLP) recurring

- Association for the Advancement of Artificial Intelligence (AAAI) recurring
- Conference on Language Modeling (COLM) recurring
- International Conference on Language Resources and Evaluation (LREC) recurring
- International Conference on Computational Linguistics (COLING) recurring
- Computer Speech and Language (CSL) journal. recurring

TEACHING

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| Instructor — Applied Natural Language Processing | Spring 2025, 2026 |
| <u>CS T780: The graduate level NLP course</u> | Drexel University |
| Instructor — Applied Machine Learning | Spring 2026 |
| <u>CS T614: The graduate level ML course</u> | Drexel University |
| Teaching Assistant — Computational Linguistics | Jan 2020 – Dec 2020 |
| <u>CIS 530: The graduate level NLP course</u> | University of Pennsylvania |
| Teaching Assistant — Natural Language Processing | Sept 2018 – Dec 2018 |
| <u>EECS 595: The graduate level NLP course</u> | University of Michigan |
| Teaching Assistant — Programming and Data Structures | Sept 2016 – Apr 2017 |
| <u>EECS 280: An introductory programming course</u> | University of Michigan |
| Tutor — Elementary Chemistry | Sept 2016 – Dec 2016 |
| <u>Science Learning Center</u> | University of Michigan |

ADVISING

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| PhD Students | |
| Cassie Huang | Jan 2025 – present |
| Ceyhun Efe Kayan | Sep 2025 – present |
| Brian Tomasette | Sep 2026 – present |
| Master Students | |
| Prabhu Prakash Kagitha | Feb 2025 – present |
| Undergraduate Students | |
| Rikhil Amonkar | Feb 2025 – present |
| Stuti Mohan | Jun 2025 – present |
| Interns and Visiting Students | |
| Owen Jiang, Jiayi Zhang, Jianing Yin, Lingze Zhang, Jen Shi, Kevin Nguyen | |
| Alumni and Past Students | |
| Bo Sun, Muyu He, Yuan Yuan, Renxiang Wang, Chimezie Maduno , Krystal Gong, Tianyi Zhang, Hainiu Xu, Zhaoyi Hou, Young-Min Cho | |