

Ziru “Ron” Chen

Curriculum Vitae

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INTERESTS	Natural Language Processing, Conversational AI, Human-Computer Interaction	
EDUCATION	The Ohio State University , Columbus, OH Ph.D. Computer Science and Engineering	Aug 2022 – May 2027 GPA: 4.0 / 4.0
	The Ohio State University , Columbus, OH B.S. Computer and Information Science, Math Minor Summa Cum Laude	Aug 2018 – May 2022 GPA: 3.97 / 4.0
EXPERIENCES	Research Assistant , The Ohio State University Advisor: Dr. <i>Huan Sun</i>	Dec 2020 – Present
	Visiting Student Research Intern , Westlake University Advisor: Dr. <i>Zhenzhong Lan</i>	May – Jul 2021
	Student Instructional Assistant , The Ohio State University	Aug 2019 – Dec 2020; Aug 2021 – May 2022
HONORS	University Fellowship , The Ohio State University	2022 – 2024
	3rd Place (Student Co-lead), 1st Alexa Prize Taskbot Challenge	2022
	Undergraduate Research Award , The Ohio State University	2022
	CIS Undergrad Scholarship , The Ohio State University	2021
	Dean’s List , The Ohio State University (6 semesters)	2018 – 2021
RESEARCH	Interactive Natural Language Interface to Databases	Jun 2022 – Present
	Designed a novel interactive semantic parsing framework for cross-domain Text-to-SQL systems. Developed an error correction model that can improve the execution accuracy of different parsers by up to 5.4% without any interaction. When database users interact with the suggested corrections in our framework, a system can reach 81.2% overall accuracy. Currently exploring the potential of using large language models to build a better interactive natural language interface to databases.	
	Measuring Answer Attribution of Large Language Models	Apr 2023 – Present
	Reproduced Stanford Alpaca training and tested the model’s zero-shot ability to attribute language models’ answers to their retrieved references. Fine-tuned Roberta, Flan-T5, and GPT-2 on our simulated training data for answer attribution. Showed that Flan-T5 can outperform Alpaca by 10.6% and ChatGPT by 7.5% on the automatic answer attribution task.	
	Chain-of-Thought Style Prompting for Text-to-SQL Parsing	Dec 2022 – May 2023
PUBLICATIONS	Proposed to explore chain-of-thought style prompting to better leverage large language models (Codex) for text-to-SQL parsing. Experimented with three kinds of chain-of-thought style prompting methods to enhance Codex’s multi-step reasoning ability and studied their robustness. Improved Codex’s text-to-SQL parsing accuracy by 5.2% .	
	TacoBot: 1st Alexa Prize Taskbot Challenge	Jun 2021 – Jun 2022
	Co-led the OSU Tacobot team. Designed the overall dialogue system architecture and finite state machine for dialogue management. Developed a pipeline to extract and simplify information in structured documents (Wikihow articles and Wholefoods recipes). Implemented retrieval-based response generation and three user engagement features. Achieved 3rd place out of 125 applications .	
PUBLICATIONS	[6] <i>Automatic Evaluation of Attribution by Large Language Models</i> Xiang Yue, Boshi Wang, Kai Zhang, Ziru Chen , Yu Su, Huan Sun Arxiv Preprint (2023, Long)	
	[5] <i>Error Detection for Text-to-SQL Semantic Parsing</i> Shijie Chen, Ziru Chen , Huan Sun, Yu Su Arxiv Preprint (2023, Long)	

[4] *Exploring Chain-of-Thought Style Prompting for Text-to-SQL*
Chang-You Tai, **Ziru Chen**, Tianshu Zhang, Xiang Deng, Huan Sun
Arxiv Preprint (2023, Long)

[3] *Text-to-SQL Error Correction with Language Models of Code*
Ziru Chen, Shijie Chen, Michael White, Raymond Mooney, Ali Payani, Jayanth Srinivasa, Yu Su, Huan Sun
The 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023, Short)

[2] *Error Detection for Interactive Text-to-SQL Semantic Parsing*
Shijie Chen, **Ziru Chen**, Huan Sun, Yu Su
The 2nd Workshop on Interactive Learning for Natural Language Processing (InterNLP 2022, Short)

[1] *Bootstrapping a User-Centered Task-Oriented Dialogue System*
Shijie Chen*, **Ziru Chen***, Xiang Deng, Ashley Lewis, Lingbo Mo, Samuel Stevens, Zhen Wang, Xiang Yue, Tianshu Zhang, Yu Su, Huan Sun (* equal contribution)
The 1st Proceedings of Alexa Prize Taskbot Challenge (Alexa Prize 2022, Long)

TEACHING

CSE 5525 Speech and Language Processing, Undergraduate & Graduate Level
Teaching Assistant, The Ohio State University (Autumn 2021; Spring 2022)

CSE 2321 Foundations I: Discrete Structures, Undergraduate Level
Teaching Assistant, The Ohio State University (Autumn 2019; Spring, Autumn 2020)

SERVICE

Program Committee: AAAI 2023

SKILLS

Programming

Python, C, Java, MATLAB, HTML and CSS, Ruby, JavaScript

Languages

*Chinese (Native), English (Fluent), Japanese (Proficient; **JLPT N2**), Korean (Elementary)*

REFERENCES

Huan Sun, Ph.D.

Associate Professor, Department of Computer Science and Engineering
The Ohio State University

NSF CAREER Award (2020), Google Research Scholar Award (2022)

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Yu Su, Ph.D.

Distinguished Assistant Professor of Inclusive Excellence, Department of Computer Science and Engineering

The Ohio State University / Microsoft Semantic Machines

NSF ICICLE Institute AI Team Lead

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Michael White, Ph.D.

Professor, Department of Linguistics

The Ohio State University

Lumley Interdisciplinary Research Award (2022)

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