

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	Aug 2022 – May 2027
	Ph.D. Computer Science and Engineering	GPA: 4.0 / 4.0
	Major: Artificial Intelligence	
	The Ohio State University , Columbus, OH	Aug 2018 – May 2022
EXPERIENCES	B.S. Computer and Information Science, Math Minor	GPA: 3.97 / 4.0
	Summa Cum Laude	
	Research Assistant , The Ohio State University	Dec 2020 – Present
	Advisor: Dr. <i>Huan Sun</i>	
HONORS	Visiting Student Research Intern , Westlake University	May – Jul 2021
	Advisor: Dr. <i>Zhenzhong Lan</i>	
	Student Instructional Assistant , The Ohio State University	
	Aug 2019 – Dec 2020; Aug 2021 – May 2022	
RESEARCH	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
	Interactive Semantic Parsing for Text-to-SQL Parsing	Jun 2022 – Present
	Designed a novel interactive semantic parsing framework for cross-domain Text-to-SQL parsers. Developed an error correction model that can improve the exact set match accuracy of different parsers by 2.4–6.5% without any interaction. Incorporating the model into the interactive framework, it reached up to 80.0% accuracy by automatically suggesting corrections to database users. Currently exploring the potential of using large language models as user simulators and improving the user-friendliness of our framework.	
	Text-to-SQL Parsing with Large Language Models	Dec 2022 – Present
	Proposed to adapt chain-of-thought prompting to better leverage large language models (Codex) for text-to-SQL parsing. Experimenting with three variations of chain-of-thought prompting to address two fundamental issues in text-to-SQL parsing: table grounding and question-program alignment. Studying the robustness of our approach via (re)annotations among all team members and bootstrapping new annotations with Codex. Boosted Codex’s text-to-SQL parsing accuracy by up to 10% .	
	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	<p><i>Text-to-SQL Error Correction with Language Models of Code</i> Ziru Chen, Shijie Chen, Michael White, Raymond Mooney, Ali Payani, Jayanth Srinivasa, Yu Su, Huan Sun In Submission, 2023</p> <p><i>Error Detection for Text-to-SQL Semantic Parsing</i> Shijie Chen, Ziru Chen, Huan Sun, Yu Su In Submission, 2023</p> <p><i>Error Detection for Interactive Text-to-SQL Semantic Parsing</i> Shijie Chen, Ziru Chen, Huan Sun, Yu Su 2nd Workshop on Interactive Learning for Natural Language Processing, Advances in Neural Information Processing Systems (NeurIPS), 2022</p> <p><i>Bootstrapping a User-Centered Task-Oriented Dialogue System</i> Shijie Chen*, Ziru Chen*, Xiang Deng, Ashley Lewis, Lingbo Mo, Samuel Stevens, Zhen Wang, Xiang Yue, Tianshu Zhang, Yu Su, Huan Sun (* equal contribution) 1st Alexa Prize Taskbot Challenge, 2022</p>
TEACHING	<p><i>CSE 5525 Speech and Language Processing</i>, Undergraduate & Graduate Level Teaching Assistant, The Ohio State University (Autumn 2021; Spring 2022) <i>CSE 2321 Foundations I: Discrete Structures</i>, Undergraduate Level Teaching Assistant, The Ohio State University (Autumn 2019; Spring, Autumn 2020)</p>
SERVICE	<p>Program Committee: AAAI 2023</p>
SKILLS	<p>Programming <i>Python, C, Java, MATLAB, HTML and CSS, Ruby, JavaScript</i> Languages <i>Chinese (Native), English (Fluent), Japanese (Proficient; JLPT N2), Korean (Elementary)</i></p>
REFERENCES	<p>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) Email: sun.397@osu.edu Website: http://web.cse.ohio-state.edu/~sun.397/</p> <p>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 Email: su.809@osu.edu Website: https://ysu1989.github.io/</p>