JINGYI CHEN

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EDUCATION

The Ohio State University *2019-2025(expected)*
PhD in Computational Linguistics
Advisor: Dr. Micha Elsner

The Ohio State University *2022-2024(expected)*
MS in Computer Science & Engineering, Natural Language Processing, Reinforcement Learning
Advisor: Dr. Andrew Perrault

Sichuan International Studies University *2015-2019*
BA in Linguistics

PROJECTS

Optimizing Speech-Synthesis Models Using Advanced RL Techniques May 2023 - Present

- Exploring and designing efficient reinforcement learning techniques for speech-synthesis models.
- Utilized PyTorch Lightning to build and manage the full pipeline, including data loading, training, and fine-tuning processes.
- Developed a new loss function that integrates reward scoring to enhance fine-tuning efficiency and model performance.
- Implemented a new data streaming buffer for efficient data pipelining and optimized the overall data handling process.
- Performed training using distributed data-parallel over 2-node (8 GPUs).

Multi-Source Morphological inflection with Reinforcement Learning Jan 2023 - Present

- Investigate reinforcement learning methods for directly optimizing transformer model on generate target (inflected form) words from a source word (base form), given a morphological attribute, e.g. number, tense, and person.
- NSF-BCS-2217554; Principal Investigator: Dr. Micha Elsner and Dr. Andrea Sims.

Explore How GANs Learn Phonological Representations Jan 2022 -Jan 2023

- Utilizing Generative Adversarial Networks (GANs) to analyze phonological representations in language. Successfully trained two Convolutional Neural Networks (CNNs) models on extensive datasets of English and French words, employing an unsupervised learning approach.
- Focused on interpreting the intermediate layers of CNNs to uncover linguistic representations derived from speech data.
- Achieved breakthrough insights into the capabilities of CNNs in phonological pattern recognition and representation, contributing valuable knowledge to the field of computational linguistics and NLP.
- Accepted by **ACL 2023 (Area Chair Awards)**.

SELECTED PUBLICATIONS

Jingyi, Chen, Micha Elsner. 2023. Exploring How Generative Adversarial Networks Learn Phonological Representations. *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*

FELLOWSHIPS AND AWARDS

ACL 2023 Area Chair Awards (Linguistic Theories, Cognitive Modeling, and Psycholinguistics) 2023
The Center for Cognitive and Brain Sciences Summer Graduate Research Award 2022
Ilse Lehiste Memorial Fund Graduate Research Award 2021-2022
The Ohio State University Fellowship 2019-2020

TECHNICAL SKILLS

Programming Languages	Python, Java, C, R, Praat, SQL
Deep Learning Frameworks	PyTorch, Pandas
Experience	Reinforcement Learning from Human Feedback (RLHF), Continuous online training (On-Policy and Off-Policy RL architecture tuning language model) Large scale distributed model training (data-parallel and model-parallel) techniques, Stable Diffusion, Human-in-the-loop