

Zhihan Zhou

Add: 1100 Church Street, Evanston, IL, USA 60201 **Tel:** (1) 224-420-0851

Email: zhihanzhou@u.northwestern.edu

[Personal Website](#) / [LinkedIn](#) / [Google Scholar](#)

EDUCATION

Northwestern University

- ✧ Doctor of Philosophy, Computer Science (GPA: **4.0/4.0**) 09/2020 - Present
Advisor: Han Liu Research Area: Deep Learning, Foundation Models, AI for Science

- ✧ Master of Science, Computer Science (GPA: **4.0/4.0**) 09/2018 - 06/2020

Zhejiang University

- ✧ Bachelor of Science, Mathematics and Applied Mathematics 09/2014 - 06/2018

SELECTED PUBLICATIONS

- ✧ **DNABERT: Pre-trained Bidirectional Encoder Representation from Transformers for DNA Language Modeling in Genome** *(Over 1 million downloads worldwide)*
Yanyong Ji, Zhihan Zhou*, Han Liu, Ramana V Davuluri (*: joint first author)*
Bioinformatics, 2021
- ✧ **DNABERT-2: Efficient Foundation Model and Benchmark for Multi-Species Genome**
Zhihan Zhou, Yanrong Ji, Weijian Li, Pratik Dutta, Ramana Davuluri, Han Liu
ICLR 2024
- ✧ **DNABERT-S: Learning Species-Aware DNA Embedding with Genome Foundation Model**
Zhihan Zhou, Weimin Wu*, Harrison Ho, Lizhen Shi, Zhong Wang, Han Liu (*: joint first author)*
Preprint, 2024
- ✧ **Learning Dialogue Representations from Consecutive Utterances**
Zhihan Zhou, Dejiao Zhang, Wei Xiao, Nicholas Dingwall, Xiaofei Ma, Andrew Arnold, Bing Xiang
NAACL 2022
- ✧ **Trade the Event: Corporate Events Detection for News-based Event-driven Trading**
Zhihan Zhou, Liqian Ma, Han Liu
ACL 2021, Findings

WORK EXPERIENCE

Research Intern @ Snap Research, User Modeling and Personalization Team 06/2023 – 10/2023

- ✧ Develop foundation models to generate general-purpose user embedding for millions of Snap users. Conduct comprehensive research in data representation, model design, training objective, and evaluation pipelines.
- ✧ Leads to two academical papers and a system that is being developing and deploying to the product.

Applied Scientist Intern @ Amazon, AWS AI Labs 09/2021 – 12/2021

- ✧ Conduct an independent research project to improve few-shot dialogue understanding by large-scale contrastive conversational model pre-training.
- ✧ Findings and models are published in NAACL 2022.

Research Assistant @ Northwestern University 01/2019 - Present

- ✧ Except the publications, also worked on:
Virus Genome Analysis: Utilize Longformer-based language model to analyze the SARS_CoV_2 virus.
Time-Series Modeling: Perform representation learning for time-series data in a cross-sectional manner.

ACADEMIC SERVICES

- ✧ Serve as Reviewer for: *NeurIPS, ICML, ICLR, ACL, EMNLP, NAACL, AISTATS*, etc.
- ✧ Serve as Teaching Assistant for:
CS 348: Introduction to Artificial Intelligence; CS 397: Seminar in Statistical Language Modeling; CS 496-6: Advanced Topics in Deep Learning, CS 496-9: Statistical Machine learning, CS 497: Deep Learning for Natural Language Processing, Stats 359: Data Science Project

SKILLS

- ✧ Programming languages: Python, Java, R, HTML, CSS
- ✧ Skills: Pytorch, AWS, GCP, Kubernetes, Docker, Linux

OTHER PUBLICATIONS

- ✧ **USE: Dynamic User Modeling with Stateful Sequence Models**
*Zhihan Zhou**, Qixiang Fang*, Leonardo Neves, Francesco Barbieri, Yozen Liu, Han Liu, Maarten W. Bos, Ron Dotsch (*: joint first author)
Preprint, 2024
- ✧ **Efficient Action Robust Reinforcement Learning with Probabilistic Policy Execution Uncertainty**
Guanlin Liu, **Zhihan Zhou**, Han Liu, Lifeng Lai
Preprint, 2023
- ✧ **KGML-xDTD: A Knowledge Graph-based Machine Learning Framework for Drug Treatment Prediction and Mechanism Description**
Chunyu Ma, **Zhihan Zhou**, Han Liu, David Koslicki
GigaScience, 2023
- ✧ **Few-shot Slot Tagging with Collapsed Dependency Transfer and Label-enhanced Task-adaptive Projection Network**
Yutai Hou, Wanxiang Che, Yongkui Lai, **Zhihan Zhou**, Yijia Liu, Han Liu, Ting Liu
ACL 2020
- ✧ **Joint Speaker Diarization and Recognition Using Convolutional and Recurrent Neural Networks**
Zhihan Zhou, Yichi Zhang, Zhiyao Duan
ICASSP 2018
- ✧ **ELLPMDA: ensemble learning and link prediction for miRNA-disease association prediction**
Xing Chen*, **Zhihan Zhou***, Yan Zhao (*: joint first author)
RNA Biology, 2018