YICHU ZHOU

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RESEARCH INTERESTS

My research interests include Machine Learning (ML) and Natural Language Processing (NLP). I am interested in analyzing and understanding distributed representations. My research covers the following topics:

- Probing representations: How distributed representations encode linguistic information and why they can make the predictions easier.
- Learning representations: How can we represent input examples in real or discrete spaces such that it is easy to build a learner.

EDUCATION

University of Utah GPA:3.8/4 *August 2016 - May 2023*
Ph.D. Candidate in Computer Science. (Specialized in NLP and ML)

Nanjing University Major GPA: 84/100 *2013 - 2016*
M.S. in Computer Science. (Specialized in NLP)

Nanjing Normal University Major GPA: 87.3/100 Rank:1% *2009-2013*
B.S. in Computer Science

WORK EXPERIENCE

- Machine Learning Engineer II at Pinterest *Aug 2023 - Present*
- Research Scientist at Yahoo Inc. *Feb 2023 - Aug 2023*
- Applied Scientist Intern (L5) at Amazon *Summer 2021*
- NLP Research Intern at Tencent America *Summer 2020*
- Teaching Assistant in Machine Learning Class. *Fall 2018*
- Teaching Assistant in Machine Learning Class. *Fall 2017*

PUBLICATIONS

- Appalaraju S, Tang P, Dong Q, Sankaran N, **Zhou Y**, Manmatha R. Docformerv2: Local features for document understanding. InProceedings of the AAAI Conference on Artificial Intelligence 2024 Mar 24 (Vol. 38, No. 2, pp. 709-718).
- Rathore A, **Zhou Y**, Srikumar V, Wang B. TopoBERT: Exploring the topology of fine-tuned word representations. Information Visualization. 2023 Jul; 22(3):186-208.
- **Zhou Y**, Srikumar V. METAPROBE: A Representation-and Task-Agnostic Probe. InProceedings of the 6th BlackboxNLP Workshop: Analyzing and Interpreting Neural Networks for NLP 2023 Dec (pp. 233-249). (BlackboxNLP'2023)
- **Zhou Y**, Srikumar V. A Closer Look at How Fine-tuning Changes BERT. InProceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers) 2022 May (pp. 1046-1061). (ACL'2022)

- Karidi T, **Zhou Y**, Schneider N, Abend O, Srikumar V. Putting Words in BERT's Mouth: Navigating Contextualized Vector Spaces with Pseudowords. InProceedings of the 2021 Conference on Empirical Methods in Natural Language Processing 2021 Nov (pp. 10300-10313). (EMNLP'2021)
- **Zhou Y**, Srikumar V. DirectProbe: Studying Representations without Classifiers. InProceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies 2021 Jun (pp. 5070-5083). (NAACL'2021)
- **Zhou Y**, Koshorek O, Srikumar V, Berant J. A Simple Global Neural Discourse ParserárXiv preprint arXiv:2009.01312. 2020 Sep 2.
- Koshorek O, Stanovsky G, **Zhou Y**, Srikumar V, Berant J. On the Limits of Learning to Actively Learn Semantic Representations. InProceedings of the 23rd Conference on Computational Natural Language Learning 2019 Nov (pp. 452-462) (CoNLL'2019). (**Best Paper Honorable Mention**)
- **Zhou Y**, Srikumar V. Beyond Context: A New Perspective for Word Embeddings. InProceedings of the Eighth Joint Conference on Lexical and Computational Semantics (* SEM 2019) 2019 Jun (pp. 22-32).
- **Zhou Y**, Huang S, Dai X, Chen J. Resolving Coordinate Structures for Chinese Constituent Parsing. InNatural Language Processing and Chinese Computing 2015 Oct 9 (pp. 353-361). Springer, Cham.
- Li B, Wen Y, Xing C, **Zhou Y**, Xu D. Building a Chinese Dependency GraphBank. In2016 IEEE/WIC/ACM International Conference on Web Intelligence Workshops (WIW) 2016 Oct 13 (pp. 9-12). IEEE.

TALKS

DirectProbe: Studying Representations without Classifiers
Nanjing University *June 2022*
NAACL 2021 *June 2021*
Georgetown University *April 2021*

Introduction of NLP *March 2022*
University of Utah

A Little History of Word Representation *July 2020*
Nanjing University

Beyond Context: A New Perspective for Word Embeddings *June 2019*
Star Sem 2019

SOFTWARE

DirectProbe
A python implementation for probing contextualized representations from geometric perspectives.
Site: `https://github.com/utahnlp/DirectProbe`

FeVER
A python implementation of the paper: *Beyond Context: A New Perspective for Word Embeddings.*
Site: `https://github.com/flyaway1217/FeVER`

ExAssist
An light-weight assist tool that can assist doing experiments.
Site: `https://pypi.org/project/ExAssist/`

PYEVALB
A python version of Evalb which is used to score the bracket tree banks.
Site: `https://pypi.org/project/PYEVALB/0.1.3/`

REVIEWER

- ACL ARR: October 2021, January 2022, April 2022, October 2022, December 2022, February 2023, June 2023, December 2023
- BlackboxNLP: 2021, 2022, 2023, 2024
- EMNLP: 2022, 2023, 2024
- CoNLL: 2022
- ACL: 2023
- EACL: 2022