

Jianing Zhou

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🌐 <https://zhjn.github.io/>

RESEARCH INTEREST

My interests lie broadly in the areas of natural language processing and machine learning, especially the processing of low-resource languages including non-compositional languages and medical languages. I have been working on data augmentation methods and data efficient methods for text generation, paraphrasing generation and text classification related to non-compositional languages and medical languages.

EDUCATION

University of Illinois at Urbana-Champaign

MS & PhD in Computer Science

GPA: 3.9/4.0

Advisor: Prof. [Suma Bhat](#)

Illinois, USA

August, 2019-Present

Shanghai Jiao Tong University

BE in Information Security

GPA: 3.8/4.3

Shanghai, China

Sept, 2015-June, 2019

SELECTED PROJECTS

Multiple Words Expression Generation

Research Assistant, with Prof. Pramod Viswanath

UIUC, CSL

Dec 2019 - June 2020

- Worked on the Multiple Words Expression Generation project, which focused on generating multiple words expression.
- Proposed to leverage a Deletion-Retrieval-Generation model to transfer original simple expression into multiple words expression.
- Proposed a Guided CopyNet to transfer literal sentences into idiomatic form.

Parallel Idiom Corpus Construction

Research Assistant, with Prof. Suma Bhat

UIUC, CSL

Oct 2020 - Dec 2020

- Worked on the Parallel Idiom Corpus Construction project, which focused on constructing a corpus of idioms and their idiomatic sentence example and corresponding literal form. This work is published on ACL 2021, MWE Workshop.
- Proposed new tasks: idiomatic sentence generation and paraphrasing.
- Presented baseline results for two proposed tasks and analyzed advantages and contribution of our corpus and tasks.

Idiomatic Expression Paraphrasing

Research Assistant, with Prof. Suma Bhat

UIUC, CSL

Feb 2021 - Sept 2021

- Worked on the Idiomatic Expression Paraphrasing project, which focused on transferring idiomatic expressions in sentences into their literal forms. This work is published on AAAI 2022.
- Proposed a weakly-supervised method utilizing an iterative back-translation mechanism.
- Constructed an large scale parallel idiom corpus.

Continual Learning of Non-compositional Expressions

UIUC, CSL

Research Assistant, with Prof. Suma Bhat

May 2021 - Jan 2022

- Worked on the Continual Learning of Non-compositional Expressions project, which focused on learning and generating non-compositional expressions under a continual learning setting.
- Constructed three datasets with two data streams for each dataset and benchmarked SOTA continual learning methods on our constructed datasets.
- Proposed a novel training objective leveraging perplexity score, which achieved best performance.

Curriculum Learning of Non-compositional Expressions

UIUC, CSL

Research Assistant, with Prof. Suma Bhat

Feb 2022 - Sept 2022

- Worked on the Curriculum Learning of Non-compositional Expressions Generation project, which focused on learning and generating non-compositional expressions under a low-resource setting with the help of curriculum learning.
- Proposed a novel curriculum learning framework, which achieved best performance.
- First pointed out the forgetting problem in the curriculum learning and propose a continual learning method to alleviate this problem.

PUBLICATIONS

- **Jianing Zhou**, Ziheng Zeng, Suma Bhat. "Non-compositional Expression Generation Based on Curriculum Learning and Continual Learning", EMNLP-Findings 2023.
- Ziheng Zeng*, Kellen Tan Cheng*, **Jianing Zhou**, Srihari Venkat Nanniyur, Suma Bhat. "IEKG: A Commonsense Knowledge Graph for Idiomatic Expressions", EMNLP 2023.
- **Jianing Zhou**, Ziheng Zeng, Suma Bhat. "CLCL: Non-compositional Expression Detection with Contrastive Learning and Curriculum Learning", **Oral**, ACL 2023.
- **Jianing Zhou**, Vyom Thakkar, Rachel Yudkowsky, Suma Bhat, William F. Bond. "Automatic Patient Note Assessment without Strong Supervision", LOUHI, EMNLP 2022.
- **Jianing Zhou**, Ziheng Zeng, Hongyu Gong, Suma Bhat. "Idiomatic Expression Paraphrasing without Strong Supervision", AAAI 2022.
- **Jianing Zhou**, Suma Bhat. "Paraphrase Generation: A Survey of the State of the Art", EMNLP 2021.
- **Jianing Zhou**, Hongyu Gong, Suma Bhat. "PIE: Parallel Idiomatic Expression Corpus for Idiomatic Sentence Generation and Paraphrasing", MWE Workshop, ACL 2021.
- **Jianing Zhou**, Suma Bhat. "Modeling Consistency of Learning Patterns in Online Courses", LAK 2021.
- **Jianing Zhou**, Hongyu Gong, Suma Bhat. "From Solving a Problem Boldly to Cutting the Gordian Knot: Figurative Text Generation", arxiv.
- **Jianing Zhou***, Jing kang Wang*, Gongshen Liu. "Multiple Character Embeddings for Chinese Word Segmentation", Student Research Workshop, ACL 2019.

MANUSCRIPTS

- **Jianing Zhou**, Ziheng Zeng, Suma Bhat. "Idiomatic Knowledge Injection via Multi-View Data Augmentation and Parameter-Efficient Tuning", In Submission.
- **Jianing Zhou**, Ziheng Zeng, Hongyu Gong, Suma Bhat. "CLoNE: Continual Learning of Non-Compositional Expressions", In Submission.

AWARDS AND ACHIEVEMENTS

- Academic Excellence Scholarship of SJTU (Third Class: top 20%) 2018
- 2nd Prize in National College Student Information Security Contest (top 10%) 2018
- Meritorious Winner in Mathematical Contest In Modeling (top 8.88%) 2018
- Academic Excellence Scholarship of SJTU (Third Class: top 20%) 2017
- 3rd Prize in the National Physics Contest for College Students 2016
- Academic Excellence Scholarship of SJTU (Second Class: top 10%) 2016

KEY SKILLS

Programming Language

Python, C, C++, Java

Security Tool

NS2, NS3, IDA Pro, OllyDbg, Burpsuite, Wireshark