

Yichen Jiang

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Education

University of North Carolina at Chapel Hill

PhD in Computer Science, advised by Prof. Mohit Bansal

Chapel Hill, NC

Aug. 2019 - Exp. May. 2024

University of North Carolina at Chapel Hill

M.S. in Computer Science, advised by Prof. Mohit Bansal

Chapel Hill, NC

Aug. 2018 - May. 2019

University of North Carolina at Chapel Hill

B.S. in Computer Science, Minor in Math and 2nd Minor in Statistics. Overall GPA: 3.86, Major GPA: 3.95.

Chapel Hill, NC

Aug. 2014 - May. 2018

Honor

Apple Scholars in AI/ML PhD Fellowship

Apple Inc.

Cupertino, CA

March. 2022

- Recognized for my research in interpreting and inducing systematic compositionality in neural NLP models.

Graduation with the Highest Honor and the Highest Distinction

Department of Computer Science, UNC

Chapel Hill, NC

May. 2018

- Complete an honor thesis "Augmenting Neural Encoder-Decoder Model for Natural Language Generation Tasks".
- Completed the undergraduate program with higher than 3.8 GPA.

Publication

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| 2024 | Inducing Systematicity in Transformers by Attending to Structurally Quantized Embeddings
Yichen Jiang, Xiang Zhou, and Mohit Bansal, <i>Preprint</i> | Preprint |
| 2024 | Hierarchical and Dynamic Prompt Compression for Efficient Zero-shot API Usage
Yichen Jiang, Marco Del Vecchio, Mohit Bansal, and Anders Johannsen, <i>Findings of EACL 2024</i> | Malta |
| 2023 | Data Factors for Better Compositional Generalization
Xiang Zhou, Yichen Jiang, and Mohit Bansal, <i>EMNLP 2023</i> | Singapore |
| 2022 | Mutual Exclusivity Training and Primitive Augmentation to Induce Compositionality
Yichen Jiang*, Xiang Zhou*, and Mohit Bansal, <i>EMNLP 2022</i> | Abu Dhabi, UAE |
| 2021 | Inducing Transformer's Compositional Generalization Ability via Auxiliary Sequence Prediction Tasks
Yichen Jiang and Mohit Bansal, <i>EMNLP 2021</i> | Dominican Republic |
| 2021 | Learning and Analyzing Generation Order for Undirected Sequence Models
Yichen Jiang and Mohit Bansal, <i>Findings of EMNLP 2021</i> | Dominican Republic |
| 2021 | Structural Biases for Improving Transformers on Translation into Morphologically Rich Languages
Paul Soulos, Sudha Rao, Caitlin Smith, Eric Rosen, Asli Celikyilmaz, R Thomas McCoy, Yichen Jiang, Coleman Haley, Roland Fernandez, Hamid Palangi, Jianfeng Gao, and Paul Smolensky, <i>LoResMT 2021</i> | Remote |
| 2021 | Enriching Transformers with Structured Tensor-Product Representations for Abstractive Summarization
Yichen Jiang, Asli Celikyilmaz, Paul Smolensky, Paul Soulos, Sudha Rao, Hamid Palangi, Roland Fernandez, Caitlin Smith, Mohit Bansal, and Jianfeng Gao, <i>NAACL 2021</i> | Remote |
| 2020 | HoVer: A Dataset for Many-Hop Fact Extraction And Claim Verification
Yichen Jiang*, Shikha Bordia*, Zheng Zhong, Charles Dognin, Maneesh Singh, and Mohit Bansal, <i>Findings of EMNLP 2020</i> | Remote |
| 2019 | Self-Assembling Modular Networks for Interpretable Multi-Hop Reasoning
Yichen Jiang and Mohit Bansal, <i>EMNLP 2019</i> | Hong Kong |
| 2019 | Avoiding Reasoning Shortcuts: Adversarial Evaluation, Training, and Model Development for Multi-Hop QA
Yichen Jiang and Mohit Bansal, <i>ACL 2019</i> | Florence, Italy |

- 2019 **Explore, Propose, and Assemble: An Interpretable Model for Multi-Hop Reading Comprehension** *Florence, Italy*
Yichen Jiang*, Nitish Joshi*, Yen-chun Chen and Mohit Bansal, *ACL 2019*
- 2018 **Closed-book Training to Improve Summarization Encoder Memory** *Brussels, Belgium*
Yichen Jiang and Mohit Bansal, *EMNLP 2018*

Work Experience

UNC-NLP

Chapel Hill, NC

Research Assistant

Aug. 2017 - PRESENT

- Built interpretable Neural Network models to tackle some of the most challenging language tasks like summarization and QA.
- Published several academic papers in NLP conferences including NAACL, ACL, and EMNLP.

Apple AIML

Seattle, WA

Research Intern, advised by Marco Del Vecchio, and Dr. Anders Johannsen

May. 2023 - Sept. 2023

- Worked on a research project to improve the efficiency of Large Language Models in calling API by compressing API documentation.
- Published the paper "Hierarchical and Dynamic Prompt Compression for Efficient Zero-shot API Usage" in EACL 2024.

Amazon Alexa AI

Sunnyvale, CA

Research Intern, advised by Dr. Di Jin, Dr. Mahdi Namazifar, Dr. Yang Liu, and Dr. Dilek Hakkani-Tur

May. 2022 - Oct. 2022

- Improving dialogue model's ability to use long-term memory.

Facebook AI Research

Menlo Park, CA (Remote)

Research Intern, advised by Dr. Barlas Oguz, Dr. Scott Yih, and Dr. Yashar Mehdad

May. 2021 - Oct. 2021

- Analyzing QA datasets to improve the commonsense reasoning capabilities of models.

Microsoft Research AI

Redmond, WA (Remote)

Research Intern, advised by Dr. Asli Celikyilmaz, Dr. Paul Smolensky, Dr. Hamid Palangi, Roland Fernandez, and Dr. Jianfeng Gao

May. 2020 - Nov. 2020

- Worked to improve and analyze TP-Transformer architecture on summarization tasks.
- Published the paper "Enriching Transformers with Structured Tensor-Product Representations for Abstractive Summarization" in NAACL 2021.

Verisk Analytics

Jersey City, NJ

Research Intern, advised by Dr. Maneesh Singh

May. 2019 - Aug. 2019

- Constructed a many-hop fact retrieval and fact verification dataset HOVER, published at EMNLP 2020.
- Worked on NLP-related data analysis research projects in Verisk AI, providing better NLP solutions to Verisk's customers.

Emerging Technology Lab, School of Media and Journalism, UNC

Chapel Hill, NC

Software Engineer & AI App Developer

Aug. 2017 - May. 2018

- Developed a chatbot with IBM Watson to answer questions regarding news in North Carolina coastal area centered at Wilmington.

Other Activities

Department of Computer Science Open Day

Chapel Hill, NC

Volunteer / Presenter

Sep. 2018

- Volunteer at the Department Open day and demo my research project to high school students.

UNC Information Technology Service Helping Desk

Chapel Hill, NC

Student Consultant

Sep. 2016 - May. 2018

- Worked as a student consultant to help resolve IT-related problems for UNC students, staff, and faculty.

Skills

Programming

- Proficient with programming languages including Python, Javascript, Java, and C.
- Proficient with Deep Learning Deep Learning Libraries including Tensorflow and PyTorch.