

# Xingran Chen

Ann Arbor, MI [◇ chenxran@umich.edu](mailto:chenxran@umich.edu) [◇ www.chenxingran.com](http://www.chenxingran.com)

## EDUCATION

---

### University of Michigan

Master of Science in Biostatistics

- GPA: 4.3/4.3 (all A<sup>+</sup>)

Ann Arbor, MI, USA

*Sept. 2022 - Present*

### Shanghai University of Finance and Economics

Bachelor of Science in Statistics (Data Science track)

- Supervisor: Wanyun Cui
- Knowledge Graph, Rule Mining, Rule-based Reasoning, Natural Language Processing

Shanghai, China

*Sept. 2017 - Jun. 2021*

## INTERNSHIP

---

### Research Assistant (Supervisor: Hui Jiang, Kin Fai Au)

University of Michigan

- Read and discussed papers in recent development in transcript identification and quantification.

*Jun. 2023 - Present*

### Research Assistant (Supervisor: Stan Z. Li)

Westlake University

- Developed a cutting-edge molecule editing algorithm combined with deep learning to address retrosynthesis prediction. (submitted to NeurIPS 2023)
- Designed a pioneering Mixup approach for data augmentation, and provided a comprehensive theoretical analysis of its generalization upper bound. (ongoing)

*Jul. 2022 - Jun. 2023*

### Research Assistant (Supervisor: Wanyun Cui)

Shanghai University of Finances and Economics

- Developed an innovative instance-based reasoning method (IBLE) for knowledge graph completion. (NeurIPS 2022)
- Proposed a new rule induction system utilizing knowledge stored in language models (Orion). (NeurIPS 2021)
- Designed an efficient approach for textual knowledge integration (OK-Transformer). (ACL 2022 Findings, ACL 2023)

*Jul. 2020 - Jun. 2022*

## PUBLICATIONS

---

### Free Lunch for Efficient Textual Knowledge Integration in Language Models.

Wanyun Cui, Xingran Chen. *ACL 2023*

### Exploring Automatically Perturbed Natural Language Explanations in Relation Extraction.

Wanyun Cui, Xingran Chen. *ACL 2023 Findings*

### Instance-based Learning for Knowledge Base Completion.

Wanyun Cui, Xingran Chen. *NeurIPS 2022*

### Open Rule Induction.

Wanyun Cui, Xingran Chen. *NeurIPS 2021*

### Enhancing Natural Language Representation with Large-Scale Out-of-Domain Commonsense.

Wanyun Cui, Xingran Chen. *ACL 2022 Findings*

### Leveraging Self-Training in Causality Classification of Socio-Political Event Data.

Adam Nik, Ge Zhang, Xingran Chen, Yuming Li, Jie Fu. *CASE Workshop in EMNLP 2022*

### Enhance Causal Span Detection via Beam-Search-based Position Selector.

Xingran Chen, Ge Zhang, Adam Nik, Yuming Li, Jie Fu. *CASE Workshop in EMNLP 2022 (Oral)*

### TPDM: Selectively Removing Positional Information for Zero-shot Translation via Token-Level Position Disentangle Module.

Xingran Chen, Ge Zhang, Jie Fu. *arXiv preprint arXiv:2305.19857*

### MotifRetro: Exploring the Combinability-Consistency Trade-offs in retrosynthesis via Dynamic Motif Editing.

Zhangyang Gao, Xingran Chen, Cheng Tan, Stan Z Li. *(submitted to NeurIPS 2023)*

### MERT: Acoustic Music Understanding Model with Large-Scale Self-supervised Training.

Yizhi Li, Ruibin Yuan, Ge Zhang, Yinghao Ma, Xingran Chen, Hanzhi Yin, Chenghua Lin, Anton Ragni, Emmanouil Benetos,

Norbert Gyenge, Roger Dannenberg, Ruibo Liu, Wenhui Chen, Gus Xia, Yemin Shi, Wenhao Huang, Yike Guo, Jie Fu. *(submitted to NeurIPS 2023)*

## PROJECTS & WORKSHOPS

---

**Enhance Causal Span Detection via Beam-Search-based Position Selector** *Jul. 2022 - Sept. 2022*  
*The 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE@EMNLP 2022)*

- Develop an algorithm based on beam search for multi-spans detection in text.
- Use wandb to manage experiments and hyper-parameter sweeping.
- The performance of the proposed system obtained the **state-of-the-art** result in the workshop.

**Enhance Language Models in Winograd Schema Challenge (WSC)** *Sept. 2020 - Dec. 2020*  
*Shanghai University of Finances and Economics (Machine Learning final project)*

- Explored the pattern of WSC and constructed CausalWiki dataset based on prior work WikiCREM.
- Used the dataset to fine-tune BERT and RoBERTa. The results obtained the state-of-the-art on WSC273, PDP, and increased by on average 1.5% on DPR and WinoGender dataset.

## AWARDS

---

- Third Prize of Shanghai University Science and Technology Innovation Contest, 2021
- Provincial Third Prize of Contemporary Undergraduate Mathematical Contest in Modeling, 2019
- Third Prize of Statistical Contest in Modeling, 2018
- Shanjia Scholarship, 2018

## SERVICES

---

### Academic Reviewer

NeurIPS 2023  
ACL 2023  
EMNLP 2022, 2023  
CASE Workshop @ EMNLP 2022  
CSAE 2022

### Department Service

Organizer, Graduate Student Academic Workshop, UMich 2022, 2023

### Social Activity & Volunteer

Volunteer, Primary School Dining Hall, Nagasaki, Japan 2022  
Captain, SUFE Association of Baseball, Shanghai University of Finance and Economics, 2020-2021

## SKILLS

---

**Programming** Python, R, SAS, SQL, C++  
**Frameworks** pytorch, huggingface, fairseq, pytorch lightning, pykeen  
**Toolkits** Git, LaTeX, WandB  
**Languages** Mandarin, English, Japanese (JLPT N2 150), Hainanese