Xinyi Wang

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About Me

I am a third-year Ph.D. candidate in the computer science department at the University of California, Santa Barbara. I am interested in understanding deep learning models, especially pre-trained large language models, using principled causality-based/probabilistic approaches.

Education

- **University of California, Santa Barbara (UCSB)** — Santa Barbara, CA, US
  Ph.D. in Computer Science (expected) — *09.2020 - present*
  - GPA: 4.0/4.0
  - Advisor: William Yang Wang
  - Honors and Awards: Academic Excellence Fellowship (2020)
- **The Hong Kong University of Science and Technology (HKUST)** — Hong Kong, China
  B.Sc in Applied Mathematics and Computer Science — *09.2016 - 07.2020*
  - GPA: 3.7/4.3
  - Honors and Awards: Chern Class Talent Scholarship (2017 - 2020), University's Scholarship Scheme for Continuing Undergraduate Students (2017 - 2020), HKSAR Government Scholarship Fund - Reaching Out Award (2019 - 2020), Chern Class Achievement Scholarship (2020), The 15th Epsilon Fund Award (2020), Joseph Needham Merit Scholarship (2020)
- **University of California, Los Angeles (UCLA)** — Los Angeles, CA, US
  Term exchange in Mathematics (Non-degree) — *09.2019 - 12.2019*
  - GPA: 3.9/4.0 (Dean's Honors List)

Publications

- **Xinyi Wang**, Wanrong Zhu, William Wang. *Large Language Models Are Implicitly Topic Models: Explaining and Finding Good Demonstrations for In-Context Learning.* Arxiv preprint 2023. [paper]
- Wenhu Chen, Xueguang Ma, **Xinyi Wang**, William W. Cohen. *Program of Thoughts Prompting: Disentangling Computation from Reasoning for Numerical Reasoning Tasks.* Arxiv preprint 2022. [paper]
- **Xinyi Wang**, Michael Saxon, Jiachen Li, Hongyang Zhang, Kun Zhang, William Yang Wang. *Causal Balancing for Domain Generalization.* ICLR 2023, poster. [paper]
- Michael Saxon, **Xinyi Wang**, Wenda Xu, William Yang Wang. *Relation Leakage in Elicited Natural Language Inference Datasets.* EACL 2023. [paper]
- Wenhu Chen, **Xinyi Wang**, William Yang Wang. *A Dataset for Answering Time-Sensitive Questions.* NeurIPS 2021 Datasets and Benchmarks Track, poster. [paper]
- **Xinyi Wang**, Wenhu Chen, Michael Saxon, William Yang Wang. *Counterfactual Maximum Likelihood Estimation for Training Deep Networks.* NeurIPS 2021, poster. [paper]
- Michael Saxon, Sharon Levy, **Xinyi Wang**, Alon Albalak, William Yang Wang. *Modeling Disclosive Transparency in NLP Application Descriptions.* EMNLP 2021, oral. [paper]
- **Xinyi Wang***, Haiqin Yang*, Liang Zhao, Yang Mo and Jianping Shen. *RefBERT: Compressing BERT by Referencing to Pre-computed Representations.* IJCNN 2021, oral. [1] [paper]
- **Xinyi Wang**, Yi Yang. *Neural Topic Model with Attention for Supervised Learning.* AISTATS 2020, poster. [paper]

[1] * denotes equal contribution.

Research Experience

- **Graduate Student Researcher at UCSB** Santa Barbara, CA, US
  Mentor: William Yang Wang *09.2020 - present*
  - Topic: building more trustworthy deep learning models using causality-based/probabilistic methods.
- **Assistant Algorithm Engineer at PingAn AI** ShenZhen, China
  Mentor: Haiqin Yang *06.2020 - 09.2020*
  - Topic: retrieval augmented BERT distillation.
- **Research Assistant at HKUST** Hong Kong, China
  Mentor: Yi Yang *09.2018 - 09.2019*
  - Topic: word embedding with financial knowledge, supervised neural topic model with attention.

Services

- 2021 Program Committee: NeurIPS Datasets and Benchmarks Track
- 2022 Program Committee: AAAI
- 2023 Program Committee: NeurIPS