Xinyi Wang

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ABOUT ME

I am a final-year Ph.D. candidate in the Computer Science department at the University of California, Santa Barbara (UCSB). My research focuses on developing a principled understanding of foundation models, with the goal of improving their capabilities and optimizing their application across diverse domains.

EDUCATION

• University of California, Santa Barbara (UCSB)

Santa Barbara, CA, US

9.2020 - present

Ph.D. in Computer Science (expected)

 \circ GPA: 4.0/4.0

o Advisor: William Yang Wang

• The Hong Kong University of Science and Technology (HKUST)

Hong Kong, China 9.2016 - 7.2020

 $B.Sc\ in\ Applied\ Mathematics\ and\ Computer\ Science$

o GPA: 3.7/4.3

Honors and Awards

| • J.P. Morgan AI PhD Fellowship | J.P. Morgan AI, 2024 |
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| • Computer Science Outstanding Publication Award | UCSB, 2024 |
| • Second place in the Alexa Prize Simbot Challenge | Amazon, 2023 |
| • Academic Excellence Fellowship | UCSB, $2020-2024$ |
| • Joseph Needham Merit Scholarship | Hong Kong, 2020 - 2024 |
| • The 15th Epsilon Fund Award | $\mathrm{HKUST},2020$ |
| • Chern Class Scholarship | HKUST, 2017-2020 |
| \bullet HKSAR Government Scholarship Fund - Reaching Out Award | Hong Kong, 2019 - 2020 |
| • University's Scholarship Scheme for Continuing Undergraduate Students | HKUST, 2017-2020 |
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PUBLICATIONS

- Xinyi Wang*, Antonis Antoniades*, Yanai Elazar, Alfonso Amayuelas, Alon Albalak, Kexun Zhang, William Yang Wang. Generalization v.s. Memorization: Tracing Language Models' Capabilities Back to Pretraining Data. Arxiv 2024. [paper]
- Jiachen Li, Weixi Feng, Tsu-Jui Fu, **Xinyi Wang**, Sugato Basu, Wenhu Chen, William Yang Wang. T2V-Turbo: Breaking the Quality Bottleneck of Video Consistency Model with Mixed Reward Feedback. NeurIPS 2024. [paper]
- Alon Albalak, Yanai Elazar, Sang Michael Xie, Shayne Longpre, Nathan Lambert, **Xinyi Wang**, Niklas Muennighoff, Bairu Hou, Liangming Pan, Haewon Jeong, Colin Raffel, Shiyu Chang, Tatsunori Hashimoto, William Yang Wang. A Survey on Data Selection for Language Models. TMLR 2024. [paper]
- Xinyi Wang, Alfonso Amayuelas, Kexun Zhang, Liangming Pan, Wenhu Chen, William Yang Wang. Understanding the Reasoning Ability of Language Models From the Perspective of Reasoning Paths Aggregation. ICML 2024. [paper]

^{*} denotes equal contribution.

- Iain Xie Weissburg, Mehir Arora, **Xinyi Wang**, Liangming Pan, William Yang Wang. Tweets to Citations: Unveiling the Impact of Social Media Influencers on AI Research Visibility. ICML 2024 (position paper). [paper]
- Xinyi Wang, Lucas Caccia, Oleksiy Ostapenko, Xingdi Yuan, William Yang Wang, Alessandro Sordoni. Guiding Language Model Math Reasoning with Planning Tokens. COLM 2024. [paper]
- Liangming Pan, Michael Saxon, Wenda Xu, Deepak Nathani, **Xinyi Wang**, William Yang Wang. Automatically Correcting Large Language Models: Surveying the landscape of diverse self-correction strategies. TACL 2023. [paper]
- Liangming Pan, Alon Albalak, **Xinyi Wang**, William Yang Wang. Logic-LM: Empowering Large Language Models with Symbolic Solvers for Faithful Logical Reasoning. Findings of EMNLP 2023. [paper]
- Wenhu Chen, Ming Yin, Max Ku, Pan Lu, Yixin Wan, Xueguang Ma, Jianyu Xu, **Xinyi Wang**, Tony Xia. TheoremQA: A Theorem-driven Question Answering dataset. EMNLP 2023. [paper]
- Wanrong Zhu, **Xinyi Wang**, Yujie Lu, Tsu-Jui Fu, Xin Eric Wang, Miguel Eckstein, William Yang Wang. Collaborative Generative AI: Integrating GPT-k for Efficient Editing in Text-to-Image Generation. EMNLP 2023. [paper]
- Xinyi Wang, Wanrong Zhu, William Wang. Large Language Models Are Latent Variable Models: Explaining and Finding Good Demonstrations for In-Context Learning. NeurIPS 2023, poster. [paper]
- Wenhu Chen, Xueguang Ma, **Xinyi Wang**, William W. Cohen. *Program of Thoughts Prompting: Disentangling Computation from Reasoning for Numerical Reasoning Tasks*. TMLR 2023. [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 Discolsive 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. [paper]
- Xinyi Wang, Yi Yang. Neural Topic Model with Attention for Supervised Learning. AISTATS 2020, poster. [paper]

Internships

• Research Intern at MIT-IBM Watson Lab

Boston, MA, US

Mentor: Yikang Shen, Rameswar Panda

6.2024 - 9.2024

- Topic: theory of constructing pretraining data to facilitate language models' reasoning ability.
- Research Intern at Microsoft Research

Montreal, QC, Canada

Mentor: Alessandro Sordoni

6.2023 - 10.2023

o Topic: parameter-efficient fine-tuning to improve math reasoning ability of large language models.

SERVICES

- Conference reviewer: AAAI (2022, 2023), NeurIPS (2021, 2023, 2024), ICLR (2024, 2025), ICML (2024), COLM (2024), AISTATS (2025)
- Journal reviewer: TPAMI (2024)