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# Haoran Wang

## Research Interests

My research involves building trustworthy AI systems, with a specific emphasis on improving both robustness and interpretability. I am broadly interested in fundamental research and interdisciplinary collaborations motivated by important applications, including detecting misinformation and analyzing social networks.

## Education

Present **PhD, Computer Science, Illinois Institute of Technology.**

Advisor: [Dr. Kai Shu](#)

2022 **MS, Computer Science, University of Oregon.**

Advisor: [Dr. Thien Huu Nguyen](#)

2019 **BS, Computer Science, Purdue University.**

Advisor: [Dr. Yung-Hsiang Lu](#)

## Publications

[Haoran Wang](#), Kai Shu. [Explainable Claim Verification via Knowledge-Grounded Reasoning with Large Language Models](#). *Findings of EMNLP2023*.

[Haoran Wang](#), Yingtong Dou, Canyu Chen, Lichao Sun, Philip S. Yu, Kai Shu. [Attacking Fake News Detectors via Manipulating News Social Engagement](#). *ACM Web Conference 2023*.

[Haoran Wang](#), Thien Huu Nguyen. [Evaluating a Joint Neural Model with Global Features for Document-Level End-to-End Information Extraction](#). *MS Thesis 2021*.

## Preprints

Lichao Sun, Yue Huang, [Haoran Wang](#), Siyuan Wu, Qihui Zhang, Chujie Gao, Yixin Huang, Wenhan Lyu, Yixuan Zhang, Xiner Li, Zhengliang Liu, Yixin Liu, Yijue Wang, Zhikun Zhang, Bhavya Kailkhura, Caiming Xiong, Chao Zhang, Chaowei Xiao, Chunyuan Li, Eric Xing, Furong Huang, Hao Liu, Heng Ji, Hongyi Wang, Huan Zhang, Huaxiu Yao, Manolis Kellis, Marinka Zitnik, Meng Jiang, Mohit Bansal, James Zou, Jian Pei, Jian Liu, Jianfeng Gao, Jiawei Han, Jieyu Zhao, Jiliang Tang, Jindong Wang, John Mitchell, Kai Shu, Kaidi Xu, Kai-Wei Chang, Lifang He, Lifu Huang, Michael Backes, Neil Zhenqiang Gong, Philip S. Yu, Pin-Yu Chen, Quanquan Gu, Ran Xu, Rex Ying, Shuiwang Ji, Suman Jana, Tianlong Chen, Tianming Liu, Tianyi Zhou, Willian Wang, Xiang Li, Xiangliang Zhang, Xiao Wang, Xing Xie, Xun Chen, Xuyu Wang, Yan Liu, Yanfang Ye, Yinzhi Cao, Yue Zhao. [TrustLLM: Trustworthiness in Large Language Models](#). *Preprint 2024*.

[Haoran Wang](#), Kai Shu. [Backdoor Activation Attack: Attack Large Language Models using Activation Steering for Safety-Alignment](#). *Preprint 2023*.

Aman Rangapur, [Haoran Wang](#), Kai Shu. [Fin-Fact: A Benchmark Dataset for Multimodal Financial Fact Checking and Explanation Generation](#). *Preprint 2023*.

Aman Rangapur, [Haoran Wang](#), Kai Shu. [Investigating Online Financial Misinformation and Its Consequences: A Computational Perspective](#). *Preprint 2023*.

Canyu Chen, [Haoran Wang](#), Matthew Shapiro, Yunyu Xiao, Fei Wang, Kai Shu. **Combating Health Misinformation in Social Media: Characterization, Detection, Intervention, and Open Issues**. *Preprint 2022*.

## Research Experience

- Fall 2022 – **Graduate Research Assistance**, *Illinois Institute of Technology*, Chicago, IL.  
Present
- o Advisor: [Dr. Kai Shu](#)
  - o Project: [GUISE](#), sponsored by *Charles River Analytics*, *DARPA*.
  - o Developed systems to extract information flows on social media using a hierarchical template approach.
- Fall 2021 – **Graduate Research Assistance**, *Montana State University*, Bozeman, MT.
- Summer 2022
- o Advisor: [Dr. Laura Stanley](#)
  - o Project: [IPAL](#), sponsored by *NSF* and *NIH*.
  - o Developed a ecosystem of mobile, wearable health monitoring device, and AR/VR/MR device to provide cognitive behavioral therapy as an intervention for users with opioid use disorder (OUD).
  - o Developed immersive biofeedback breathing exercise on Vuzix Blade AR glasses and Microsoft HoloLens 2 MR glasses that can process PPG(BVP) signal in real-time.
- Fall 2018 – **Undergraduate Research Assistance**, *Purdue University*, West Lafayette, IN.
- Spring 2019
- o Advisor: [Dr. Yung-Hsiang Lu](#)
  - o Project: [CAM2](#), sponsored by *NSF*.
  - o Evaluated different solutions to Big Data storage problem of unstructured data.
  - o Built a distributed database to store images and videos along with their metadata captured by network cameras around the globe.

## Fellowships & Awards

- 2022 🏆 **Provost Doctoral Fellowship**, Stevens Institute of Technology
- 2021 🏆 **Benjamin Fellowship**, Montana State University
- 2019 🏆 **Semester Honor Student**, Purdue University

## Teaching Assistantship

- CS 210: Computer Science I**, *Spring 2020, Winter 2021, Spring 2021*, University of Oregon.  
Graduate Teaching Assistant
- CS 211: Computer Science II**, *Fall 2020*, University of Oregon.  
Graduate Teaching Assistant

## Academic Service

- Program Committee:** AAI 2024
- Student Volunteer:** ACM FAccT 2023
- Reviewer:** SIGIR 2022, WWW {2023, 2024}, TKDE 2023
- External Reviewer:** EMNLP 2023, ACL 2023, NIPS 2023

## Mentoring

- Aman Rangapur, IIT MS student
- Hans Guttormsen, IIT UG student

## Technical Skills

- Programming languages:** C, C++, Python, Java, C#, JavaScrip, R, Julia
- Deep learning frameworks:** PyTorch, Hugging Face Transformers, PyTorch Geometric
- HPC:** CUDA, OpenMP, MPI
- Software:** Linux, Git, Google Cloud Computing,  $\LaTeX$