Haonan Wang

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Graduate Research Assistant Volunteer, Johns Hopkins University
Master of Science in Computer Science, Johns Hopkins University
Malone Hall, 3400 N Charles St, Baltimore, MD 21218, USA

Research interests

My research interests focus on **Natural Language Processing**,**Human-Centered Artificial Intelligence (HCI-AI)**,and **Machine learning (ML)**.Specifically, my work is ultimately dedicated to addressing two key themes **(1)Human-Centered Social Value Alignment for Computational Social Science.[P8],[P9]**&**(2)Advancing LLMs and Agents for Dynamic World Simulation and Reasoning[P7]**

Working experience

2024.04–Present **Graduate Research Volunteer**, Johns Hopkins University,Baltimore,USA
Advisor: Ziang Xiao(Assistant Professor),Jie Gao(Postdoc Fellow)

2024.06–2024.08 **Master Internship**, EACON, Shanghai, China
Mentor: Qiao Lin(Vice President of System Engineering)

2024.03–2024.04 **Image Data Annotation Research Assistant**, CCVL lab,Baltimore,USA
Mentor: CCVL lab

2021.09–2023.06 **Undergraduate Research Assistant**, Institute of Mathematics and Systems Science,Liaoning,China
Advisor: Wei Liu(Assistant Professor)), Fanhui Zeng(Professor), Yu Zhang(Assistant Professor), Yishan Pan(Academician of the Chinese Academy of Engineering), Peizhuang Wang(IAITQM Fellows)

Education

2023 – 2025 **Johns Hopkins University**, Baltimore, Maryland, USA
Master of Science in Engineering in Computer Science(M.S.E)
Dissertation-Project: Unveiling Statistical Relationships Among Popular LLM Benchmarks: A Quantitative Framework
Guidance: Jason Eisner(***Faculty Advisor***),Ziang Xiao(***Project Advisor***)
Main courses-*GPA: 3.8/4.0*: Introduction to Human-Computer Interaction(**A**), Advanced Topics in Conversation User Interfaces(**A**), Introduction to Data Science(**A-**), AI Ethics and Social Impact(**A-**), NLP: Self-Supervised Models(**B+**)

2019 – 2023 **Liaoning Technology University**, Fuxin, Liaoning, China
Information and Computing Science(B.S.Degree)
Dissertation-Project: Research on the application of human action recognition based on LSTM-CNN
Guidance: Wei Liu(Project Advisor), Yu Zhang(Project Advisor)
Main courses-*GPA: 3.42/4.5*(Rank Top 1st): Numerical Analysis(**A+**), Mathematical Analysis(**A-**), Machine Learning(**A+**), Information Theory(**A+**), Data Mining(**A+**), Data Structure(**A**)

Honors and scholarships

2022 **China National Scholarship** (Ministry of Education of the People's Republic of China)
Awarded the highly competitive China National Scholarship, granted to the top 1% of students nationwide in recognition of outstanding academic performance, research excellence, and comprehensive personal development.

2023 **Outstanding Student Scholarship, Special Prize** (Liaoning province government)

2021 **Outstanding Student Scholarship, First Prize** (Liaoning Technology University)

Publications

Large Language Models(LLMs) and Human-Center AI

2025 [P9] **PerspectiveCoder-LM: A LLM-based Multi-agent System for Large-scale Corpus Inductive Text Coding Analysis**
Haonan Wang, Jie Gao, Kristina Gligorić, Ziang Xiao.
preprint [paper] [code]

2025 [P8] **From Noise to Nuance: Enriching Subjective Data Interpretation through Qualitative Analysis**
Ruyuan Wan, **Haonan Wang**, Ting-Hao Kenneth Huang, Jie Gao.
The 4th HCI+NLP Workshop at EMNLP 2025 [paper]

2025 [P7]**ByteSized32Refactored: Towards an Extensible Interactive Text Games Corpus for LLM World Modeling and Evaluation**
Haonan Wang, Junfeng Sun, Xindi Yuan, Ruoyao Wang, Ziang Xiao.
The 5th WordPlay Workshop at EMNLP 2025 [paper],[code]

2025 [P6] **Interpretable Planning and Prediction: LLM for Multi-Agent Enhanced Robust Hierarchical Reinforcement Learning**
Haonan Wang, Mingjia Zhao, Wei Liu.
preprint [paper] [code]

2024 [P5] **Unveiling Statistical Relationships Among Popular LLM Benchmarks: A Quantitative Framework**
Haonan Wang, Ziang Xiao.
Master-Dissertation-Project

2023 [P4] **Research on the application of human action recognition based on LSTM-CNN**
Haonan Wang, Wei Liu.
B.S.-Dissertation-Project

Machine Learning and data analysis

2025 [P3] **Unsupervised Feature Selection Algorithm Based on L2,p-norm Feature Reconstruction**
Wei Liu, Miao Zhong, Guangwei Liu, **Haonan Wang**, Ning Qian.
Plos one [paper],[code]

2022 [P2] **Research on geometric figure classification algorithm based on Deep Learning**
Ruiyang Wang, **Haonan Wang**, Junfeng Sun, Mingjia Zhao, Meng Liu.
Advances in Artificial Intelligence and Machine Learning, [paper]

2021 [P1] **Research status and future prospects of machine learning algorithm in big data analysis**
Haonan Wang.
Journal of Network Computing and Applications [paper]

Participate in Project

2022 **Research on Classification Algorithm and Knowledge Representation Based on Factor Space Theory**(National Natural Science Foundation of China, NSFC)
Advisors: **Fanhui Zeng, Haitao Liu, Sizong Guo, Peizhuang Wang**,

2021 **Intelligent Scheduling of Autonomous Truck Fleets via Parallel Control Theory**(National Natural Science Foundation of China, NSFC)
Advisors: **Wei Liu, Guangwei Liu, Yu Zhang, Runcai Bai, Yishan Pan**,

Software Development Patent

2022 **[S.1] Artificial intelligence robot programming interactive control system**
Haonan Wang, Mingjia, Zhao, et al. (2022).
PRC Software Copyright Patent, Patent Nov. 2022SR1053901.

2022 **[S.2] Image recognition processing operation platform**
Haonan Wang, Junfeng, Sun, et al. (2022).
PRC Software Copyright Patent, Patent Nov. 2022SR1052419.

2022 **[S.3] Artificial Intelligence Community Security Equipment Monitoring System**
Haonan Wang, Chang Liu, et al. (2022).
PRC Software Copyright Patent, Patent Nov. 2022SR1052492.

2022 **[S.4] A network behavior analysis system based on machine learning**
Haonan Wang, Meng Liu, et al.
PRC Software Copyright Patent, Patent Nov. 2022SR1049807.

2022 **[S.5] Autonomous Driving Intelligent Dispatching Center Management System**
Haonan Wang, Chi Li, et al.
PRC Software Copyright Patent, Patent Nov. 2022SR1052526.

2022 **[S.6] Unmanned shortest path planning system.**
Haonan Wang, Ruiyang Wang, et al. (2022)(2022).
PRC Software Copyright Patent, Patent Nov. 2022SR0935020.

2022 **[S.7] Data operation analysis and collection system based on machine learning**
Haonan Wang, Junfeng, Sun, et al. (2022).
PRC Software Copyright Patent, Patent Nov. 2022SR1052428.

2022 **[S.8] Staff check-in face recognition system**
Jiawei Zhang, Pengyu Cai, Haonan Wang, et al. (2021).
PRC Software Copyright Patent, Patent Nov. 2021SR0699354.

Competition Awards

2022 **[C1] 1st Place, 12th MathorCup College Mathematical Modeling Challenge 2022**
National-level award in China

2022 **[C2] 1st Place, Liaoning Mathematical Modeling Contest 2022**
Provincial-level award in China

2022 **[C3] 1st Place, 7th Shuwei Mathematical Modeling Challenge for College Students 2022**
National-level award in China

2022 **[C4] 1st Place, 12th MathorCup College Mathematical Modeling Challenge 2022**
National-level award in China

2022 **[C5] 3rd Place, Liaoning Province "Shuo Ri Cup" College Student Computer Design 2022**
Provincial-level award in China

2022 **[C6] 3rd Place, Northeast Three Provinces Mathematical Modeling Competition 2022**
Provincial-level award in China

2022 **[C7] 2nd Place, American Mathematical Contest in Modeling 2022**
International award

2021 **[C8] 3rd Place, 14th National Undergraduate Computer Design Competition 2021**
National-level award in China

2021 **[C9] 3rd Place, 11th Mathor Cup University Mathematical Modeling Challenge 2021**
National-level award in China

2021 **[C10] 2nd Place, National College Students' "Hua Shu Cup" Mathematical Modeling 2021**
National-level award in China

2021 **[C11] 1st Place, Liaoning Province "Shuo Ri Cup" College Student Computer Design 2021**
Provincial-level award in China

2021 **[C12] 1st Place, Liaoning AgricuLNTUral Economic Modeling Competition 2021**
Provincial-level award in China

2021 **[C13] 1st Place, Outstanding Scholarship of the Faculty of Science, LNTU 2021**
School-level award in China

2021 **[C14] 1st Place, Career Planning Competition of the Faculty of Science, LNTU 2021**
School-level award in China

2021 **[C15] 2nd Place, Liaoning Mathematical Modeling Contest 2021**
Provincial-level award for China

Technical skills

Programming languages
Python, PyTorch, Scikit-learn, Git, etc.

Data Analysis
Pandas, Numpy, SciPy, NLTK, Matplotlib, Seaborn

Machine Learning

Linear Regression, Logistic Regression, K-Means, K-Nearest Neighbors (KNN), Decision Trees, Random Forests, Gradient Boosting (e.g., XGBoost), Support Vector Machines (SVM), Principal Component Analysis (PCA), Naive Bayes, Neural Networks

Languages

English (fluent), Chinese(native)

Reference

Thanks to my professor, collaborators, tech companies, and institutions for their continuous guidance, support, and opportunities to grow in both academic and professional domains.

Ziang Xiao	
Assistant Professor	Johns Hopkins University
Kristina Gligorić	
Assistant Professor	Johns Hopkins University
Jie Gao	
Postdoc Fellow	Johns Hopkins University
Xingdi (Eric) Yuan	
Senior Researcher	Microsoft Research, Montréal
Ruoyao Wang	
Assistant Professor	Central Finance and Economics University
Yishan Pan	
Chinese Academy of Engineering Fellow	Liaoning University
Peizhuang Wang	
Chinese Association for Artificial Intelligence Fellow	Liaoning Technical University
Wei Liu	
Professor	Liaoning Technical University
GuangWei Liu	
Professor	Liaoning Technical University
Runcai Bai	
National Safety Professor	Liaoning Technical University
Shuisheng Lan	
Co-Founder, Chief Executive Officer (CEO)	EACON Intelligent Driving
Qiao Lin	
Chief Technology Officer(CTO)	EACON Intelligent Driving