
Haonan Wang

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Graduate Research Assistant, ISLE lab, Johns Hopkins University

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Research interests

My research interests include **Human-Centered Artificial Intelligence (HCI-AI)**, **Natural Language Processing(NLP)**, and **Machine learning (ML)**. Specifically, Human-AI Alignment Interaction/Collaboration, LLMs for evaluation and application, Machine learning, and Data science.

Working experience

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| 2024.04–
Present | Graduate Research Assistant, 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
Advisor: Yaoyao Liu (Assistant Professor) |
| 2021.09–2023.06 | Undergraduate Research Assistant, Institute of Mathematics and Systems Science , Liaoning, China
Advisor: Wei Liu (Professor), Yu Zhang (Professor), |

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: Ziang Xiao(Project Advisor),Jason Eisner(Faculty 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

Human-AI Interaction and Natural language Processing

- 2025 [P6] **LLMs based on Multi-Agent data annotation for subjective text**
Haonan Wang, Jie Gao, Ziang Xiao.
preprint CHI 2026 [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]

Key Project

- 2025 **LLMs based multi-agent for subjective data annotation**
Advisors: Jie Gao,Ziang Xiao(Johns Hopkins University,USA)

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- 2024 **Refactored ByteSized32: A Corpus and Challenge Task for Generating Task-Specific World Models Expressed as Text Games**
Advisors: **Ziang Xiao**(Johns Hopkins University,USA), **Ruoyao Wang**(Central University of Finance and Economics,China)
- 2021 **Intelligent Scheduling of Autonomous Truck Fleets via Parallel Control Theory**
Advisors: **Wei Liu, Guangwei Liu, Runcai Bai** (Liaoning Technical University, China), **Yishan Pan**(Academician of Chinese Academy of Engineering, China).

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.

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- 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

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| 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 Agricultural 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), Mandarin (native)