HAO SUN

+86-17863107076 | sunhaoxx@zju.edu.cn | kiva12138.github.io

Hao Sun | Kiva12138 | 0000-0001-8094-1991 | Kiva12138

Objective

Innovative researcher specializing in Artificial Intelligence (AI), with expertise in multimodal learning, large language models (LLMs), reinforcement learning, and sentiment analysis. Passionate about advancing Artificial General Intelligence (AGI) and transformative technologies to push the boundaries of human knowledge and civilization.

Education

- **Zhejiang University [🏛]** *09.2020 - 06.2025*
  Ph.D in Computer Science and Technology Hangzhou, China
  - Awarded the Outstanding Graduate Honor, selected as one of the top 10% of graduates for academic achievement.
- **Harbin Institute of Technology [🏛]** *09.2016 - 06.2020*
  Bachelor of Software Engineering Harbin, China
  - Awarded the Outstanding Graduate Honor, granted to the top 8% of students.

Experience

- **Ritsumeikan Univerisity, College of Computer Science and Engineering [🏛]** *06.2025 - Now*
  Senior Researcher, invited by Yen-Wei Chen, Fellow of the Engineering Academy of Japan Osaka, Japan
  - Oversaw the research part of LLMs and reinforcement learning in the host laboratory.
  - Led a research initiative focused on AGI utilizing LLMs, reinforcement leanring, and bionics.
- **Ritsumeikan Univerisity, College of Computer Science and Engineering [🏛]** *08.2023 - 08.2024*
  Visiting Scholar, invited by Yen-Wei Chen, Fellow of the Engineering Academy of Japan Osaka & Otsu, Japan
  - Funded by the Zhejiang University PhD Academic Star Program (awarded to the top 100 graduate students).
  - Led a project on developing a unified multimodal and multitask framework with LLMs.
  - Led a project on enabling LLMs with multimodal processing capabilities through parameter-efficient fine-tuning.
  - Published findings at IEEE Transactions on Affective Computing, Pattern Recognition, etc.

Projects

- **Intelligent Integrated Analysis Platform Construction for Rheumatoid Arthritis (RA)** *2022 - 2025*
  Funded by National Key R&D Program Project, 2022YFC2504605, Ministry of Science and Technology, China Core Participant
  - Aimed to develop an AI-driven platform for integrated analysis to enhance diagnosis and treatment of RA.
  - Built a new approach that integrates multimodal clinical data and optimizes diagnosis accuracy by 10%.
  - Accountable for the development, implementation, and validation of multimodal methodologies.
- **Preoperative Early Recurrence Detection and Prediction of HCC Based on Federated Learning** *2022 - 2024*
  Funded by Zhejiang Provincial Natural Science Foundation Key Project, LZ22F020012 Core Participant
  - Aim to develop a federated learning solution for early preoperative HCC recurrence prediction with privacy.
  - Achieved +13% accuracy in recurrence prediction while ensuring data privacy through federated learning.
  - Responsible for project proposals, multimodal methodologies, and final validation.
- **Research on Key Technologies for Smart Construction Site Management Platform Based on CV** *2022 - 2024*
  Funded by Hangzhou New Zhongda Technology Co., Ltd., 2022AIZD0147-02 Core Participant
  - Aimed to develop a smart construction site monitor and management platform to improve safety and efficiency.
  - Successfully built a real-time monitoring platform that reduced violations by 15% and simplified management.
  - Responsible for project proposals, methodology, acceptance, and project management.

Publications and Patents

C=Conference, J=Journal, P=Patent, S=In Submission

[C.1] **[First Author]**. **CubeMLP: An MLP-based Model for Multimodal Sentiment Analysis and Depression Estimation**. In *ACM Multimedia Proceedings*. 2022. pp.3722–3729. Association for Computing Machinery. Lisboa, Portugal. DOI: 10.1145/3503161.3548025. Cited by 140 (as of June 2025).

[J.1] **[First Author]**. **Modality-Invariant Temporal Representation Learning for Multimodal Sentiment Classification**. Information Fusion. 2023. Vol.91. pp.504-514. Elsevier. DOI: 10.1016/j.inffus.2022.10.031. Cited by 40 (as of June 2025). Impact Factor: 18.1.

[J.2] **[First Author]**. **Tensorformer: A tensor-based multimodal transformer for multimodal sentiment analysis and depression detection**. IEEE Transactions on Affective Computing. 2023. Vol.14(4). pp.2776-2786. IEEE. DOI: 10.1109/TAFFC.2022.3233070. Cited by 45 (as of June 2025). Impact Factor: 13.9.

[J.3] **[First Author]**. **Multimodal Sentiment Analysis with Mutual Information-based Disentangled Representation Learning**. IEEE Transactions on Affective Computing. 2025. Early Access. IEEE. DOI: 10.1109/TAFFC.2025.3529732. Impact Factor: 13.9.

[J.4] **[First Author]**. **Multi-Modal Adaptive Fusion Transformer Network for The Estimation of Depression Level**. SENSORS. 2021. Vol.21(14). pp.4764. MDPI. DOI: 10.3390/s21144764. Cited by 80 (as of June 2025).

[S.1] **[First Author]**. **One Framework to Rule Them All: Unifying Multimodal Tasks with LLM Neural-Tuning**. *ArXiv.2408.03001*, 2024.

[S.2] **[First Author]**. **Multimodal Infusion Tuning for Large Models**. *ArXiv.2403.05060*, 2024.

[S.3] **[First Author]**. **Robust Latent Representation Tuning for Image-text Classification**. *ArXiv.2406.06048*, 2024.

[S.3] **[First Author]**. **Modality-invariant and Specific Prompting for Multimodal Human Perception Understanding**. *ArXiv.2311.10791*, 2023.

[C.2] **[Co-First Author]**. **EPIC: Efficient Prompt Interaction for Text-Image Classification**. In *IEEE International Conference on Multimedia & Expo (ICME)*. 2025. IEEE.

[C.3] **[Second Author]**. **IRLSG: Invariant Representation Learning for Single-Domain Generalization in Medical Image Segmentation**. In *IEEE International Conference on Acoustics, Speech and Signal Processings (ICASSP)*. 2024. pp.5585-5589. IEEE. DOI: 10.1109/ICASSP48485.2024.10446700.

[C.4] **[Third Author]**. **LGA: A Language Guide Adapter for Advancing the SAM Model's Capabilities in Medical Image Segmentation**. In *International Conference on Medical Image Computing and Computer-Assisted Intervention Processings (MICCAI)*. 2024. pp.610-620. Springer. DOI: 10.1007/978-3-031-72390-2_57.

[C.5] **[Third Author]**. **MCKD: Mutually Collaborative Knowledge Distillation for Federated Domain Adaptation And Generalization**. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2023. pp.1-5. IEEE. DOI: 10.1109/ICASSP49357.2023.10095699.

[J.5] **[Third Author]**. **CoSTHR: A Heart Rate Estimating Network with Adaptive Color Space Transformation**. IEEE Transactions on Instrumentation and Measurement. 2022. Vol.71. pp.1-10. IEEE. DOI: 10.1109/TIM.2022.3170976. Cited by 25 (as of June 2025).

[C.6] **[Third Author]**. **Enhanced Multimodal Depression Detection With Emotion Prompts**. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2025. pp.1-5. IEEE. DOI: 10.1109/ICASSP49660.2025.10889035.

[P.1] **Engineering Progress Determining Method and Device Based on Multi-Mode Time Sequence Information Fusion**. App.No: CN202310788030.2/US20250005475A1. Country: CN/US. Publication Date: 2023-07.

[P.2] **Rheumatoid Arthritis Activity Grading Device Based on Multimodal Data**. App. No:CN202310755346.1. Country: CN. Publication Date: 2023-06.

[P.3] **A Single-Domain Generalization Method for Medical Image Segmentation**. App. No: CN116596832A. Country: CN. Publication Date: 2023-02.

Honors and Awards

- **Outstanding Graduate Award** *06.2025*
  Zhejiang University Hangzhou, China
  ◦ Awarded to the top 10% of outstanding doctoral students in recognition of their academic excellence.
- **Award of Honor for Graduate (Four times)** *12.2024 / 12.2023 / 12.2022 / 12.2021*
  Zhejiang University Hangzhou, China
  ◦ Awarded annually to the top 15% of outstanding doctoral students in recognition of their excellence.
- **Zhejiang University Academic Scholarship** *12.2022*
  Zhejiang University Hangzhou, China
  ◦ Awarded to support research by outstanding doctoral students.
- **Outstanding Graduate Leader Award (Twice)** *12.2024 / 12.2023*
  Zhejiang University Hangzhou, China
  ◦ Recognizes exceptional graduate students who demonstrate outstanding leadership to their field or community.
- **Graduate with Merit A Performance** *12.2023*
  Zhejiang University Hangzhou, China
  ◦ Awarded to graduates demonstrated exceptional academic performance and active participation in social activities.
- **HUAWEI Scholarship** *12.2023*
  Zhejiang University Hangzhou, China
  ◦ Awarded to exceptional students in computer science and AI for academic excellence and research innovation.
- **Outstanding Undergraduate Award** *06.2020*
  Harbin Institute of Technology Harbin, China
  ◦ Awarded to the top 15% of outstanding under-graduate students in recognition of their excellence.
- **National Inspirational Scholarship** *12.2018*
  Harbin Institute of Technology Harbin, China
  ◦ Awarded to the top 5% of outstanding undergraduate students in recognition of their excellence.

Skills

- **Academic-Specific:** Scholarly Writing, Publication, Peer Review, Conference Presentation, Grant Proposal
- **AI Research:** Algorithm Development, Model Training & Finetuning, Data Processing, Evaluation
- **LLM-Specific:** Model Customization, Knowledge Integration, Multimodal Tuning, Scalability and Efficiency
- **Multimodal Research:** Framework Design, Task Adaptation, Multimodal System Deployment
- **Software Engineering:** Feasibility and Requirements Analysis, System and Detailed Design, Implementation and Software Maintenance, etc
- **Programming Languages:** Python, PyTorch, Numpy, TensorFlow, Java, C++, C, HTML, GO, etc
- **Full-stack Development:** FrontEnd Programming, BackEnd Design and implementation, Database Systems
- **Language:** Mandarin, English, Japanese

Additional Information

2020 - 2021: Published TensorFlow tutorials on IMOOC.
2016 - 2025: Developed 30+ independent projects (please refer to https://github.com/kiva12138).

References

1. **Yen-Wei Chen**
   Professor, College of Information Science and Engineering, Ritsumeikan University
   Fellow of the Engineering Academy of Japan
   Email: chen@is.ritsumei.ac.jp
   Relationship: Advisor