

BAI-RUI ZHANG

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Country P. R. CHINA

EDUCATION

- Northeastern University P. R. CHINA
B.E., GPA:3.99/4.0; 4.22/5.0, Computer Science & Technology 09.2021 – 07.2025
IELTS score:6.5 GPA Rank:3/116 (Top 2.6%)
- The Chinese University of Hong Kong, Shenzhen P. R. CHINA
Intern student, School of Data Science 06.2024 – Present

SELECTED AWARDS AND HONORS

- International-Level Meritorious Winer (Top 8%), Mathematical Contest in Modeling (MCM/ICM) 02/2024
- International-Level 1st Prize (Top 5%), Asia and Pacific Mathematical Contest in Modeling 11/2023
- University-Level First Prize Scholarship (Awarded to One Student in the Entire Major) 11/2024
- University-Level Merit Student (Three Consecutive Years) 2022 – 2024
- University-Level Comprehensive Scholarship, Four Consecutive Semesters 2021 – 2023

SKILLS, TECHNIQUES & INTERESTS

Professional Skills

- Python, C++, Matlab, SQL, HTML
- Deep Learning (CNN, LSTM, Transformer); Machine Learning (SVM, XGBoost, Random Forest)
- Large Language Model Testing, Deployment and Data Processing
- Linux (Ubuntu), Docker, Kubernetes, Visualization

Research Interests

- LLMs, AGI, AI Agent, AIGC, AI for Healthcare, Embodied intelligence

RESEARCH EXPERIENCE

Project: Multimodal Emotion Recognition Model

Position: Undergraduate Researcher

10.2023 – 10.2024

Advisor: Prof. Hongfei Lin, Dalian University of Technology

Description:

- We designed and implemented VISPOR, a model that integrates visual information from emotion resources to construct more effective prompts for emotion detection.
- VISPOR achieved a remarkable advancement over existing emotion detection methods, with an increase of 1.38% to 3.15% in both Accuracy and Macro-F1 scores
- Submitted to *ARR October* (Co-first Author, Average Score 2.83/5.0 Before Rebuttal, Preferred Venue: *NAACL 2025*).

Project: AI in Pancreatic Image Analysis: A Review

Position: Undergraduate Researcher

03.2023 – 05.2024

Advisor: Prof. Yong Liu, Zhejiang University

Description:

- Summarized advancements in AI algorithms for pancreatic cancer imaging (CT, MRI, EUS), providing valuable insights for the medical field.
- Contributed to a 22,000-word review on algorithms for image classification, segmentation, and prognosis
- Accepted by Sensors (SCI, JCR Q2, 2nd Author)

Project: Sepsis Mortality and Medication Prediction Modeling

Position: Summer Research Camp Participant

07.2023 – 04.2024

Advisor: *Prof. Manolis Kellis, Massachusetts Institute of Technology*

Description:

- Developed a personalized medication prediction model for sepsis, utilizing machine learning techniques like SVM, Random Forest, and XGBoost.
- Identified critical vital signs and medications influence sepsis mortality, with model accuracy reaching 73%.
- Achieved an "A" grade (98/100) for the project evaluated by Prof. Kellis, ranking 1st in the team.
- Accepted by ISAIMS (EI, 1st Author)

INTERNSHIP EXPERIENCE

The Chinese University of Hong Kong, Shenzhen

05.2024 – Present

Position: *Research Assistant*

Supervisor: *Prof. Benyou Wang, The Chinese University of Hong Kong, Shenzhen*

Description:

- Conducted comprehensive literature reviews on multimodal medical large language models.
- Identified vital attributes for an ethical medical multimodal LLM and developed testing methodologies using checklist.
- Expected to publish an essay titled “Are LLMs Ethically Ready? A Critical Study” to ARR (1st Author) in December.

NON-ACADEMIC EXPERIENCE

Northeastern University, China

Publicity Coordinator of 2104 Computer Science & Technology Class

09.2021 – 09.2023

Managed class communications, organized events, and promoted activities through college media channels.

Northeastern University & University of Technology Sydney

09.2023 – 12.2023

International Subject Assistant

Facilitated international program coordination, addressing course-related challenges among teachers and students.

PUBLICATIONS

Min, C.*, **Zhang, B.***, Lin, H., Li, X. (2024, October). The more, the merrier: Detecting Categorical Emotions from Texts with Cross-modal Insights. *ARR October*. Preferred Venue: *NAACL 2025. CCF-B*. **Link**. [In Revision](#)

Liu, W., **Zhang, B.**, Liu, T., Jiang, J., & Liu, Y. (2024, July). Artificial Intelligence in Pancreatic Image Analysis: A Review. *Sensors*, 24(14), 4749. SCI JCR Q2. **DOI**. [10.3390/s24144749](#)

Zhang, B., Cai, Q., Ding, J., & Yuan, K. (2023, October). Factors that increase the mortality of sepsis and personalized medication for patients with sepsis. In *Proceedings of the 2023 4th International Symposium on Artificial Intelligence for Medicine Science* (pp. 1261-1271). EI. **DOI**. [10.1145/3644116.3644330](#)

PATIENTS

Zhang, B., et al. Multifunctional Desktop Expander [Patent]. CN202322388965.X. April, 2024.

Zhang, B., et al. Desktop Expander (Multifunctional and Foldable) [Patent]. CN202330570881.0. March, 2024.

Liu, W, **Zhang, B.**, et al. An Image Acquisition and Diagnostic Aid Device [Patent]. CN202321362505.3. February, 2024.

REFERENCES

Chao Liu, Ph.D.

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Manolis Kellis, Ph.D.

Professor, MIT Computer Science Member, Broad Institute of MIT and Harvard, MIT Stata Center

Massachusetts Institute of Technology

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