

# BAI-RUI ZHANG

E-mail Address [barryzbr12@163.com](mailto:barryzbr12@163.com) Personal Homepage [Bairuizhang.github.io](https://Bairuizhang.github.io)

Address Shenzhen, Guangdong Province, 518172

Phone Number +86 13015413337

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 1<sup>st</sup> 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; Linux (Ubuntu), Docker, Kubernetes, Visualization
- Deep Learning (CNN, LSTM, Transformer); Machine Learning (SVM, XGBoost, Random Forest)
- Large Language Model Testing, Deployment and Data Processing

### 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:** Dr. Changrong Min & 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 (Second Author, Meta Score 4.0/5.0, ARR October). [Preview Link](#).

**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, 2<sup>nd</sup> 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 1<sup>st</sup> in the team.

### INTERNSHIP EXPERIENCE

The Chinese University of Hong Kong, Shenzhen

06.2024 – Present

**Position:** *Research Assistant*

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

### Description:

- Identified four key attributes for an ethical LLM and developed testing methodologies using checklist.
- Using data from educational resources, human-annotated, and synthetic data to conduct comprehensive testing.
- Only 20% of the LLMs we tested barely meet the minimum requirement for ethical AI in healthcare.
- Submitted an essay titled “Are LLMs Ethically Ready for Healthcare? A Critical Study Using Checklist” (1<sup>st</sup> Author) to ARR February.

### NON-ACADEMIC EXPERIENCE

#### Northeastern University, China

- Publicity Coordinator of 2104 Computer Science & Technology Class 09.2021 – 09.2023
- Subject Assistant in Engineering Economics & Software Architecture (UTS & NEU Joint) 09.2023 – 12.2023

### PUBLICATIONS (BY DATE)

**Zhang, B.**, Liu, X., Xiao, Q., Feng, X., Hu, Y., Wang, B. (2025, February) Are LLMs Ethically Ready for Healthcare? A Critical Study Using Checklist. *ARR* (Under Review). **Link.** [Submission Certificate](#)

Liu, X., Xiao, Q., Hu, Y., Chen J., Feng, X. **Zhang, B.**, Xiang, W., Chang J., Yu, G., Wang, B. (2025, February) Large Language Models for Outpatient Referral: Problem Definition, Benchmarking and Challenges. *ARR* (Under Review). **Link.** [Submission Certificate](#)

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](#)

### PATENTS

**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.

Professor, Dean of the School of Mathematics and Statistics

Northeastern University

[liuchao@mail.neu.edu.cn](mailto:liuchao@mail.neu.edu.cn)

Manolis Kellis, Ph.D.

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

Massachusetts Institute of Technology

[kellis-recs2@mit.edu](mailto:kellis-recs2@mit.edu)