Qizheng Zhao

Mobile: +86 18938280636
ORCID: https://orcid.org/0009-0009-4496-733X
Email: zhaoqzh@mail2.sysu.edu.cn

EDUCATION

Sun Yat-sen University **Sep 2020 - Jun 2025 (expected)**

B.S., Preventive medicine (Five year), School of Public Health

PUBLICATIONS

[1] **Zhao, Q.**, Fan, X., Chen, M., et al. MSS-Former: Multi-Scale Skeletal Transformer for Intelligent Fall Risk Prediction in Older Adults. **Accepted in** *IEEE Internet of Things Journal* (**JCR Q1 2023IF: 10.6**), DOI: 10.1109/JIOT.2024.3420789

[2] **Zhao, Q.,** Chen, M., Fu, L., Yang, Y., & Zhan, Y. Assessing and projecting the global burden of thyroid cancer, 1990–2030: Analysis of the Global Burden of Disease Study. *Journal of Global Health* **(JCR Q1 2023IF: 7.66)**

[3] Wang, X., Cao, J., **Zhao, Q.** et al. Identifying sensors-based parameters associated with fall risk in community-dwelling older adults: an investigation and interpretation of discriminatory parameters. *BMC Geriatrics* **(JCR Q2 2023IF: 4.9)**

WORKING PAPER

[1] **Zhao, Q.**, Chen, M., & Zhao, Y. MIEFP-Net: A Multimodal Image-Enhanced Network for Fall Prediction Using IMU Data. The 15th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB). (Under Review)

RESEARCH INTERESTS

· Genetic Epidemiological Studies of Complex Diseases
· Epidemiological Studies Based on Machine Learning and Deep Learning
· Multi-Omics Bioinformatics Research on Epidemics
· Applied Statistics, Data Mining, Machine Learning

FUNDINGS

Shenzhen Medical Research Fund (SMRF) PI **Jan 2024 - Dec 2024**

Project Title: Research on Real-time Risk Identification Self-Prediction Model and Intelligent Intervention System for Elderly People's Gait Based on Deep Learning Large Model and Deep Imaging Data.

Funding: ¥50,000.

Project Approval No.: A2301041.

RESEARCH EXPERIENCE

Sun Yat-sen University School of Public Health (Shenzhen) Jul 2023 - Present

Prof. Yiqiang Zhan research group

Team member

Since my junior year, I have conducted research in Professor Zhan's laboratory. My studies have focused on the epidemiology of neurodegenerative diseases and the statistical analysis methods for survival analysis. During this period, I primarily employed Mendelian randomization methods for genetic epidemiological statistics and learned data mining techniques using the UK Biobank (UKB) and NHANES databases. Currently, I have one paper based on the Global Burden of Disease (GBD) database that has been accepted by the *Journal of Global Health*. Additionally, two papers on the trends and forecasts of the global burden of diabetes and neurodegenerative diseases are currently under review.

Sun Yat-sen University School of Public Health (Shenzhen) Mar 2022 - Present

A.P. Yang Zhao research group

PI & Team member

Since the beginning of my sophomore year, I have been actively engaged in scientific research within A.P. Zhao's research group and laboratory. My research focuses on leveraging machine learning and deep learning to model and innovate methods for personalized health management. Specifically, I concentrate on sensor-based health monitoring and AI-driven early risk prediction. During this period, I have conducted research on the prognosis and management of elderly health, the assessment and early warning of fall risks, and the analysis and modeling of elderly kinesiology using motion recognition technologies, signal spectrum analysis, and digital biomarker extraction. While working in this laboratory, I independently published a paper in the *IEEE Internet of Things Journal* and co-authored a total of four additional papers.

Innovation and Entrepreneurship Training Program for College Students in 2023: Gait anomaly analysis and fall risk prediction model based on deep imaging and deep learning Dec 2022 -Dec 2023

Project leader

This project utilized gait data from wearable inertial measurement devices and functional walking tests to extract key gait characteristics. We successfully identified high fall risk indicators and examined the combined influence of various factors on fall risk in Chinese older adults. During the school defense review, our project received the highest rating of "Excellent".

Innovation and Entrepreneurship Training Program for College Students in 2022: The early prediction and risk assessment model of Alzheimer's disease and related diseases based on machine learning for the whole population Dec 2021 - Nov 2022

Team member

This project began with a meta-analysis of monitorable risk factors in the early stages of Alzheimer's Disease (AD), through which predictive factors were identified. We then trained and tested six machine learning models, resulting in a high-accuracy early diagnosis prediction model for AD. To design an interactive management system for early AD diagnosis, we developed a simple client-side web page and a WeChat questionnaire mini-program for model deployment, establishing a preliminary user interface capable of real-time interaction for AD prediction. As a core member of the team, I was responsible for data cleaning and mining, model training, and constructing the web client for demo presentation. During the school defense review, our project received the highest rating of "Excellent".

PROFESSIONAL EXPERIENCE

Sun Yat-Sen University Affiliated No.8 Hospital Sep 2023 - Nov 2023

Clinical intern

As a full-time clinical intern, I completed comprehensive rotations in Pediatrics, Surgery, Internal Medicine, Gynecology, and Infectious Diseases.

HONORS & AWARDS

- 2023: The second prize of the Guangdong Provincial Competition (Undergraduate Group) for Statistical Modeling of National College Students.
- 2023: Outstanding Project of Innovation and Entrepreneurship Training Program for College Students
- 2022: Outstanding Project of Innovation and Entrepreneurship Training Program for College Students

PROGRAMMING SKILLS

Proficient in Python and R, with strong command of the PyTorch library and familiarity with the Keras library. Earned internship credits in SAS. Experienced in using and processing data from the UKB and NHANES databases.