

# WEI BO

Buffalo, NY 14221 • (314) 665-4361 • [weibo@buffalo.edu](mailto:weibo@buffalo.edu)

Motivated Ph.D. candidate who offer a unique blend of hands-on analytical expertise and specialized education in data science, IT, biometrics, and smart health. Deep interest in leveraging data and analysis for real-world applications, focusing on innovative Internet-of-Things (IoT) solutions for high-impact fields such as healthcare and smart health. Excelled in bridging theoretical data analysis with practical implementation to enhance efficiency, safety, and accuracy. Advanced communicator who effectively works with academic researchers from different majors to bridge gaps and ensure full understanding of requirements. Excels in challenging environment with exposure to new academic topics, responsibilities, methods and processes.

**Research Interest:** smart health, embedded/mobile sensing, and related intelligent analytics/computing

## Education

### EDUCATION

- **University at Buffalo, the State University of New York (SUNY)** • 01/2021 – present  
Ph.D., Computer Science & Engineering Supervised by Prof. Wenyao Xu  
~ *Research Project:* Mobile Rehabilitation (mRehab) for stroke, ADRD and Hospice related analytics based on NHATS data, ADRD Screening based on voice biomarker or Clock Drawing Testing, Phoneme-level Mispronunciation (PLM) Detection, PLM-based voice-omics for SLI Screening in Children  
~ *GPA:* 4.0
- **Washington University in St. Louis** • 01/2019 – 05/2020  
Master, Information Systems Management  
~ *Simple Research Projects:* Kaggle Project about Zip Code and Income, Risk Analysis of Self-Driving Cars, Data Analysis about ICD Code and Mortality, Pacman Project in Artificial Intelligence (AI), System Security Plan about Healthcare Industry (in cooperation with Magellan Health)  
~ *GPA:* 4.0
- **Shanghai University of Finance and Economics** • 09/2010 – 06/2014  
Bachelor, International Business  
~ *Simple Research Projects:* Research on Effect Evaluation on Single-Sided Information Advertisement, Analysis of Strategic Adjustment and Improvement of Jiangling Motors Corporation for Market Changes and Competitors' Strategic Changes, Research on how Foreign Cosmetics Brands (Kaiserwin) Enter Chinese Market

## Professional Activities

### PUBLICATION

- **Wei Bo**, Suzanne S. Sullivan, Xiaoyu Zhang, Mingchen Gao, Wenyao Xu, "A Telemedicine Analytic Framework for Fully and Semi-automatic Alzheimer's Disease Screening using Clock Drawing Test", IEEE Journal of Biomedical and Health Informatics (JBHI)
- **Wei Bo**, Matthew Rubino, Wenyao Xu, "A Mispronunciation-Based Voice-Omics Representation Framework for Screening Speech and Language Impairments in Children", IEEE International Conference on Healthcare Informatics (ICHI'24), Orlando, FL, June 2024
- Huijuan Zhang, **Wei Bo**, Wenyao Xu, Jun Xia, "Deep-learning-enhanced Three-dimensional Photoacoustic Tomography of Human Breast", Frontiers in Optics (FIO), October 2022
- Suzanne Sullivan, **Wei Bo**, Chin-Shang Li, Wenyao Xu, Yu-Ping Chang, "Predicting Hospice Transitions in Dementia Caregiving Dyads: An Exploratory Machine Learning Approach", GSA Innovation in Age (GSA), Volume 6, Issue 6, August 2022
- Huijuan Zhang, **Wei Bo**, Anthony Di Spirito, Chuqin Huang, Nikhila Nyayapathi, Emily Zheng, Tri Vu, Yiyang Gong, Junjie Yao, Wenyao Xu, Jun Xia, "Deep-E: A Fully-Dense Neural Network for Improving the Elevation Resolution in Linear-array-based Photoacoustic Tomography", IEEE Transactions on Medical Imaging (TMI), Volume 41, Issue 5, May 2022, Pages 1279 – 1288
- **Wei Bo**, Jeanne Langan, Lora Cavuoto, Sutanuka Bhattacharjya, Heamchand Subryan, Ming-Chun Huang, Wenyao Xu, "A Progressive Prediction Model Towards Home-based Stroke Rehabilitation Programs", Elsevier Smart Health (SH), Volume 23, March 2022

## PRESENTATION & POSTER

- **Wei Bo**, Matthew Rubino, Wenyao Xu, “A Mispronunciation-Based Voice-Omics Representation Framework for Screening Speech and Language Impairments in Children”, IEEE/ACM ICHI 2024 (Orlando, FL, USA) **(Invited Talk)**
- **Wei Bo**, “Summary of Speech Annotation and Transcription Enhancer (SATE)”, AI4ExceptionalEd - Year 1 Site Visit, Mar 2024 (Buffalo, NY, USA) **(Invited Talk)**
- **Wei Bo**, Matthew Rubino, Wenyao Xu, “A Mispronunciation-Based Voice-Omics Representation Framework for Screening Speech and Language Impairments in Children”, AI4ExceptionalEd - Year 1 Site Visit, Mar 2024 (Buffalo, NY, USA) **(Poster)**
- **Wei Bo**, Alexander Gherardi, Wenyao Xu, “NutraNurture: Nutritional Confidence During Pregnancy”, Panasci TEC Competition, Feb 2024 (Buffalo, NY, USA) **(Pitch Talk)**
- **Wei Bo**, Harshavardhan Baira Reddy, Meiyan Lin, Wenyao Xu, “Investigate Digital Voice Biomarkers of Alzheimer Disease and Related Dementias”, UB VPHS Aging Symposium, Dec 2023 (Buffalo, NY, USA) **(Poster)**
- **Wei Bo**, Timothy Scholtz, Wenyao Xu, “Speech to Text based Word and Phoneme Level: Transforming Speech Diagnosis: The Power of ASR Technologies”, SEAS LSAMP/REU Research Symposium, Aug 2023 (Buffalo, NY, USA) **(Poster)**
- **Wei Bo**, Dasang Dolma, Kevin Zhao, Korey Liu, Nicholas Salvemini, Wenyao Xu, “Non-Speech Sound Detection in Speech Recognition: Investigating methods to enhance the detection of non-speech sounds during automated speech recognition processes”, SEAS LSAMP/REU Research Symposium, Aug 2023 (Buffalo, NY, USA) **(Poster)**
- **Wei Bo**, Justin Amstadt, Joy Lee, Wenyao Xu, “Mispronunciation Detection And Diagnosis: Identifying deviations in speech from target pronunciation and analyzing the characteristics of these mispronunciations”, SEAS LSAMP/REU Research Symposium, Aug 2023 (Buffalo, NY, USA) **(Poster)**
- **Wei Bo**, Jeanne Langan, Lora Cavuoto, Sutanuka Bhattacharjya, Heamchand Subryan, Ming-Chun Huang, Wenyao Xu, “A Progressive Prediction Model Towards Homebased Stroke Rehabilitation Programs”, IEEE/ACM CHASE 2021 (Washington D.C., USA) **(Invited Talk)**

## COMPETITION

- **Wei Bo**, Harry Lin, Johnson Schwede, Wenyao Xu. PREPARE: Pioneering Research for Early Prediction of Alzheimer's and Related Dementias EUREKA Challenge, Phase 1.
- **Wei Bo**, Alexander Gherardi, Sharon Cryan, Wenyao Xu. Panasci Technology Entrepreneurship Competition (Panasci TEC) 2024, round 1 and round 2.

## HONORS & AWARD & GRANT

- 1st Place Award in NIA PREPARE Challenge Phase 1, 2024
- NSF Student Travel Award, IEEE/ACM Chase Conference, 2021

## TEACHING ASSISTANT

- CSE 574: Introduction to Machine Learning, Fall 2022
- CSE 560: Data Models and Query Languages, Spring 2022
- CSE 521: Operating Systems, Fall 2021
- CSE 111: Introduction to Quantitative Analysis and Reasoning with Computing, Spring 2021

## MENTORING EXPERIENCE

- Matthew Rubino (Undergrad, CSE@UB, Co-authored IEEE ICHI, 2024)
- Harry Lin (Undergrad, CSE@UB, Team Member, NIA PREPARE Challenge Phase 1, 2024),
- Johnson Schwede (Undergrad, CSE@Middlebury College, Team Member, NIA PREPARE Challenge Phase 1, 2024)
- Harshavardhan Baira Reddy (Master, CSE@UB, Co-authored UB VPHS Aging Symposium, 2023)
- Meiyan Lin (Master, STL@UB, Co-authored UB VPHS Aging Symposium, 2023)
- Timothy Scholtz (Undergrad, CE@UB, Team Member, SEAS LSAMP/REU Research Symposium, 2023)
- Dasang Dolma (Undergrad, DSE@UC Berkeley, Team Member, SEAS LSAMP/REU Research Symposium, 2023)
- Kevin Zhao (Undergrad, CS@UW, Team Member, SEAS LSAMP/REU Research Symposium, 2023)

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- Korey Liu (Undergrad, CSE@UB, Team Member, SEAS LSAMP/REU Research Symposium, 2023)
- Nicholas Salvemini (Undergrad, CSE@UB, Team Member, SEAS LSAMP/REU Research Symposium, 2023)
- Justin Amstadt (Undergrad, CS@West Valley University in Saratoga, Team Member, SEAS LSAMP/REU Research Symposium, 2023)
- Joy Lee (Undergrad, CE@UB, Team Member, SEAS LSAMP/REU Research Symposium, 2023)

## REVIEWER & VOLUNTEER

- IEEE International Conference on Biomedical and Health Informatics (BHI) (Reviewer, Aug 2024)
- Elsevier Smart Health (Reviewer, Jan 2024)
- IEEE International Conference on Body Sensor Networks (BSN) (Reviewer, 2023)
- Elsevier Smart Health (Reviewer, July 2023)
- Western New York Invention Convention (Volunteer, 2021-2022)

## Working Experience

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### UNIVERSITY AT BUFFALO • INTERN • OPTICAL & ULTRASONIC IMAGING LABORATORY • 07/2020 – 12/2020

- Improved image reconstruction algorithm for breast cancer imaging based on Photoacoustic method.
- Used deep learning to improve the spatial resolution of medical images based on Photoacoustic Tomography technology.

### Beijing Jiamin Culture Communication Co., Ltd. • BUSINESS MANAGER • MARKETING DEPT. • 08/2017 – 08/2018

- Created custom enterprise-level solutions aimed at clients' financial, marketing, and investment management requirements.
- Analyzed relationship between strategy implementation and feedback then produced most effective marketing plans or management programs for users.

### ALL IN PAY Network Services Co., Ltd • BUSINESS MANAGER • FINANCIAL SERVICES DEPT. • 06/2014 – 05/2017

- Participated in development and testing/assessment of payment system for Haitong Securities (a top 3 securities company in China) that increased system stability and operational flexibility.
- Investigated financial ecological cycle of the market, creating forecasts that governed how to handle relevant data. Used data to establish new business program that ensured capital transaction security and veracity of reconciliation.
- Conducted marketing projects and executed new technical projects, including evaluating business processes and reconciliation liquidation process then issuing detailed business report.
- Developed payment products based on varied business requirements of financial institution clients, oversaw launch and captured feedback, and continued development to address issues and change requests.
- Based on client requirements, authored initial product requirement documents and technical interface documents for IT department.