

Wei Zhang

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EDUCATION

University of Miami

PhD candidate in Biostatistics | Advisor: Chen, X. Steven

Miami, FL

2019-Expected in Aug. 2024

The George Washington University

MS in Statistics

Washington, DC

2017-2019

State University of New York at Binghamton

BS in Economics Analysis & Double Majors: Actuarial Math

Binghamton, NY

2014-2017

RESEARCH INTERESTS

My primary research interests are statistical and machine learning methods in high-dimensional genomic data, including biomarker detections, subtype clustering, and association analysis. My thesis topic focuses on tree-based machine learning models for dimension reduction and subtype clustering with multi-view genomic data.

RESEARCH EXPERIENCE

Graduate Research Assistant

Miami, FL

Translational Statistical Bioinformatics Lab, University of Miami Miller School of Medicine

05/2022-Present

- Collaborated with a diverse team to research and analyze genomic data for association studies, biomarker discoveries, and disease predictions in late-onset Alzheimer's Disease, triple-negative breast cancer, and colorectal cancer
- Published multiple research papers contributing to the field of biomarker detection and disease prediction
- Conducted critical assessment of DNA methylation probe reliability on Illumina MethylationEPIC BeadChip microarrays, contributing to methodological advancements in epigenetic research
- Assisted in the development of an RShiny database, facilitating exploration of DNA methylation in Dementia study
- Demonstrated proficiency in R programming for comprehensive statistical analysis, handling diverse genomic data types, including RNA-seq, DNA methylation, and clinical data
- Supported in drafting and editing grant proposals, ensuring clarity and alignment with project objectives
- Working on developing an advanced R package for comprehensive DNA methylation data analysis

SELECTED PUBLICATIONS AND PREPRINTS

- **Zhang W**, Wu, C, Huang H, Bleu P, Zambare W, Alvarez J, Wang L, Paty, PB, Romesser PB, Smith JJ, Chen XS (2024) Enhancing chemotherapy response prediction via matched colorectal tumor-organoid gene expression analysis and network-Based biomarker selection *Preprint*
- **Zhang W**, Young JI, Gomez L, Schmidt MA, Lukacovich D, Varma A, Chen XS, Kunkle B, Martin ER, Wang L (2023) Critical evaluation of the reliability of DNA methylation probes on the Illumina MethylationEPIC BeadChip microarrays *Preprint* ([code](#))
- Lukacovich D, Deirdre O'Shea, Huang H, **Zhang W**, Young JI, Chen XS, Dietrich ST, Kunkle B, Martin ER, Wang L (2023) MIAMI-AD (Methylation in Aging and Methylation in AD): an integrative knowledgebase that facilitates explorations of DNA methylation across sex, aging, and Alzheimer's disease. *Manuscript in review* ([database website](#))
- **Zhang W**, Young JI, Gomez L, Schmidt MA, Lukacovich D, Varma A, Chen XS, Martin ER, Wang L (2023) Distinct CSF biomarker-associated DNA methylation in Alzheimer's disease and cognitively normal subjects. *Alzheimer's Research & Therapy* 15: 78 ([code](#))
- **Zhang W**, Li E, Wang L, Lehmann BD, Chen XS (2023) Transcriptome meta-analysis of triple-negative breast cancer response to neoadjuvant chemotherapy. *Cancers* 2023; 15(8):2194
- Silva TC, **Zhang W**, Young JI, Gomez L, Schmidt MA, Varma A, Chen XS, Martin ER, Wang L (2022) Distinct sex-specific DNA methylation differences in Alzheimer's disease. *Alzheimer's Research & Therapy* 14: 133 ([code](#))

TEACHING EXPERIENCE

Teaching Assistant

University of Miami | EPH705 Advanced Statistical Methods, Professor: Wang, Lily

Spring 2022-Present

- Assisted students in programming with R and SAS;
- Held discussion session and office hours every week to help students understand course materials;
- Evaluated homework, tests, and maintained course grades for the class.

The George Washington University | STAT6201 Applied Linear Models, Professor: Barut, Emre

Fall 2018

- Evaluated homework, tests, and held office hours every week to ensure students understood course concepts;

HONERS & AWARDS

Student Competition Award (Best Poster), ASA Florida Chapter Meeting

2023

Travel Award, University of Miami

2023

TECHNICAL SKILLS

Proficient in R/Rstudio for package building, data analysis, and visualization

Comprehensive skills in SAS and Python for various statistical applications

Familiar with Linux system and command