Ziyuan Wang

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EDUCATION

BS, Medical Microbiology & Bacteriology, University of Minnesota.   5/2019
MS, Biostatistics, University of Washington.   3/2021
Ph.D., Epidemiology, University of Pittsburgh.   8/2021-present

RESEARCH

SWAN HDL, Epidemiology Data Center (EDC), Pitt
Graduate Student Researcher   08/2021-present
  ➢ Conducting literature review on the association between complement proteins and menopause
  ➢ Performing longitudinal analysis using GEE and LME models on complement proteins and subclinical atherosclerosis

Brown Research Group, Fred Hutchinson Cancer Research Center
Research Assistant Intern   01/2020-08/2021
  ➢ Implemented the case-cohort analysis scheme to investigate the association between biomarkers and risk of HIV infection
  ➢ Ran simulations to compare different sampling schemes for better statistical efficiency
  ➢ Replicated and modifies the subcohort analysis method from published manuscripts
  ➢ Studied the effect of unmeasured confounding on HIV studies

Women's Health Initiatives, Fred Hutchinson Cancer Research Center
Capstone project   09/2020-03/2021
  ➢ Designed and created the project proposal and statistical analysis plan
  ➢ Developed algorithms that identify cancer diagnosis using Medicare claims for participants enrolled in the WHI project
  ➢ Analyzed the algorithm performance using the Kappa statistics, relative risk regression, and logistic regression methods to determine the effect of baseline characteristic on predictability
  ➢ Used the algorithms to replicate the original hormone therapy trials findings to test the predictability of the algorithms
  ➢ Practiced R and SAS skills in health administrative data cleaning and algorithm building

Denison Lab, Department of Ecology, Evolution and Behavior, UMN
Research Assistant   10/2016-09/2019
  ➢ Developed rep-PCR protocol and 16s ribosomal RNA Sequencing protocol
  ➢ Conducted rep-PCR amplification with BOX-A1R element for fingerprinting and phylogenetic analysis
  ➢ Programmed RStudio to analyze sequencing results and generate consensus sequences for the creation of phylogenetic trees for comparison of genetic similarities of different strains
  ➢ investigated functional gene responsible for phenotypic variation in 21 fields of collected *Bradyrhizobium* strains

Zhang Lab, Department of Chemical Engineering, UMN
International Genetically Engineered Machine Competition (iGEM)   05/2018-11/2018
  ➢ Led plasmid construction for reduction of ionic mercury to elemental form and transformed plasmid to competent *E. coli* cells
  ➢ Collaborated with Math Department on Monod Modeling to predict growth curve of engineered *E. coli* cells for comparison w/ wild strains competency
  ➢ Served as the undergraduate lab safety coordinator, updating protocols and

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safety forms for distribution and communication

SPECIALTIES

Skills: Design study, Sample size calculation, SAP creation, Data visualization, Statistical inference and modeling, Missing data imputation, Longitudinal data analysis, Survival analysis, Interpretation skills, Excel, Literature reviews, Machine learning, Inverse probability weighting

Programming Languages: RStudio, S A S , SQL, Python

Lab Skills: Transduction, Conjugation, ELISA, DNA extraction, Gel Electrophoresis, PCR amplification, Primer design, Plasmid construction, Western blot

Languages: Chinese (native speaker), English (fluent), Italian (basic)

ENGAGEMENT

Department of Biostatistics, UW

Equity, diversity, and inclusion (EDI) committee member   09/2019 – 03/2021
  - Assisted and attended weekly tea activities to support community building and discuss EDI-related problems in the public health field and society
  - Engaged in the reading around race and equity in weekly meetings
  - Helped students who encounter issues around equity, diversity, and inclusion in academic or daily life.

College of Biological Sciences, UMN

Microbiology club member   09/2015 – 05/2019
  - Joined in monthly meetings with students and professors to listen to attend seminars
  - Built connections with researchers from the university, government, and other private sectors to explore career opportunities

RECOGNITIONS

  - Presenter at UofM Undergraduate Research Symposium and CBS Undergraduate Research Symposium
  - Presenter at iGEM Competition in Boston, MA for genetically engineered *E. coli* research
  - Presenter at student seminar at the Department of Biostatistics at UW
  - Awarded with the Maroon Global Excellence Scholarship for undergraduate study at UofM
  - Awarded $1,000 from the Department of Microbiology and Immunology at UofM for *E. coli* research for iGEM