Isabella (Wanping) Xu

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EDUCATION

Duke University   **Aug 2024 - May 2026**
Master of Biostatistics
  • **Coursework:** Causal Inference, Statistical Genetics, Survival Analysis, Generalized Linear Models, Reinforcement Learning, Study Design & Applied Statistics, Biomedical Applications for Biostatisticians

University of Washington   **Sep 2020 - Jun 2024**
B.A., Mathematics
  • **GPA:** 3.78/4.00
  • **Coursework:** General Biology and Chemistry, (Multivariable) Calculus, Linear Algebra, Real Analysis, Statistics series, Computer Science, Machine Learning, Numerical Analysis

RESEARCH & PROJECTS

Ethical Consumption Before Capitalism   **May 2025 - Jul 2025**
Rhodes Information Initiative, Duke University   *Duke University*
  • Fine-tuned BART and GPT-4o models on Early Modern English texts to automate OCR correction and enhance Named Entity Recognition (NER) across 2,700+ historical pages
  • Extracted and analyzed geographic entities from the Records of the Virginia Company to study colonial settlements, trade routes, and territorial disputes
  • Built an interactive R Shiny map to visualize spatial and temporal changes in colonial Virginia between 1606–1626

Large Language Model Multinomics   **Oct 2024 - Jun 2025**
Xie Lab, Duke University   *Duke University*
  • Executed efficient loading and parsing of complex multi-file datasets, organizing raw data into distinct gene expression and antibody capture matrices based on feature types
  • Delivered optimized, ready-to-use data files, enhancing clarity and usability for advanced research applications

Molecular Mechanisms of Acute and Delayed Neurotoxicity   **Jun 2023 - Aug 2023**
North Carolina Central University
  • Identified the causes of neurological symptoms in soldiers potentially exposed to nerve agents by studying brain tissue in a controlled model
  • Analyzed specific protein levels in the spinal cord to understand the effects of nerve agent exposure
  • Combined molecular data with clinical findings to map out pathways related to neurological impact

The Weight-Length Relationships and Variability of Steelhead Trout in Western Washington
University of Washington
  • Evaluated the relationship between the weight and length of the steelhead trouts
  • Identified differences between key variables, comparing length, probable age class, and site
  • Applied linearization and simple univariate exploratory data analysis

Bedding Customizer
University of Washington
  • Developed a Java program allowing consumers to customize bedding products based on preferences
  • Applied recursive enumeration through the Problem interface to efficiently generate and display product options

The Kiercy Temperament Sorter
University of Washington
  • Developed a Java program to analyze personality test results, accurately determining Keirsey personality types for each user
  • Designed the program to process input files, store data in arrays, and generate personalized results in a user-friendly report format

SKILLS

  • **Languages**: Mandarin, English, Russian
  • **Programming Skills**: R, Python, MATLAB, Java
  • **Data Science & ML Skills**: Large Language Models, Data Analysis, Data Preparation
  • **Databases & Tools**: SQLite, Git/GitHub, R Shiny, VS Code, SAS
  • **Data Skills**: Data Wrangling, ETL, Data Visualization, Cohort Building, Data Quality Assurance
  • **Healthcare & Biomedical**: Electronic Health Records (EHR), Clinical & Claims Data (coursework), Statistical Genetics, Biomedical Applications

HONORS

  • **Dean's List, University of Washington:** 7 out of 12 quarters

PUBLIC HEALTH EXPERIENCES

Be The Match, University of Washington, Seattle, WA   **Oct 2023 - Jun 2024**
Volunteer, Club Member
- Built connections between the National Marrow Donor Program with UW students through donors recruitment
- Encouraged students in signing up for blood and money donations on campus

Oxford University OxCGRT Data Team, Remote   **Jan 2021 - Jun 2023**
Data Contributor
- Compiled COVID-19 health policy data through news and government websites
- Supported the development of a global database to inform policy analysis and response strategies
- Categorized regional and country-specific policy data to create a resource for assessing global pandemic responses

Kaiser Permanente Capitol Hill, Seattle, WA   **Apr 2020 - Jun 2024**
Volunteer
- Managed the front desk and provided navigational assistance and department transfers
- Assisted radiology department with managing patients