XINTONG LU

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CURRENT POSITION

Research Biostatistician **Mar 2025**

Parkview Health, Parkview Research Center, Parkview Mirro Center for Research & Innovation

EDUCATION

Yale University, New Haven, CT **2022-2024**

MPH in Biostatistics, Horstman Fellowship

University of California, Irvine, Irvine, CA **2018-2022**

B.S. in Biomedical Engineering & Minor in Religious Study, Dean's Honor List, Promise Award in Religious Studies

PROJECT EXPERIENCE

Investigating Time-Varying Interventions in Open Cohort Studies

Yale University

- Conducted research on an open cohort study using a stepped wedge design to assess the effects of a time-varying intervention on a time-to-event outcome, that including devised and implemented Monte Carlo simulations via **R** to determine the necessary sample size, ensuring accurate and reliable statistical power for the study.
- Developed an **R Shiny app** to apply these findings to a real-time study on HIV disclosure, aiming to create a user-friendly tool for practical applied research.

Predicting Mortality for MIMIC-III Patients with Atrial Fibrillation

Yale University

- Utilized advanced **SQL** queries such as CTEs, functions, triggers, and stored procedures to clean and retrieve data from the MIMIC-III database, and effectively manipulated data within relational databases.
- Achieved a **15%** increase in data completeness, enhanced subsequent statistical analysis and visualization.
- Developed a predictive **logistic regression model** that offers valuable insights into mortality patterns among MIMICIII patients with atrial fibrillation based on various clinical variables.

Novel Feeding Device for Premature Infant

University of California, Irvine

- Conducted research on the characteristics of premature newborns and identified the need for **a new feeding device** that would combine injection and pacifier feeding methods.
- Developed a new feeding device that allowed for rapid switching between the two feeding methods and addressed potential issues related to bacterial contamination and raw material loss.
- Collaborated with the research team to design and execute experiments, collect and analyze data, and interpret results.

PROFESSIONAL EXPERIENCE

Baylx, Inc. CA, US

A biopharmaceutical company dedicated to developing novel stem cell therapeutics and products

Lab Assistant Intern **Jun 2020 – Aug 2020**

- Project: *Stem Cell Therapy for Malignant Diseases*
    - Conducted literature review to develop a deep and overall insight on stem cell research and clinical studies for further experiment (i.e. core technologies & bottleneck analysis, representative publications by Ba Baylx)
    - Carried out experiment with the R&D department
        - Collaborated with team members to design the experiment to clarify the goals and procedures
        - Extracted Human Umbilical Cord Mesenchymal Stem Cells (hUC-MSC) for further experiment
        - Performed experiment to observe therapeutic effects of hUC-MSC on rheumatic arthritis (RA)
        - Applied quantitative and qualitative skills to analyze the experimental data and identify problems
        - Compared curative & side effects of hUC-MSC based product candidates and current RA treatment

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- Assisted with experiment-related paperwork
  - Recorded the key data and progress of the experiment and operating data of the lab equipment
  - Performed management of the experimental samples and preservation records of relevant data
  - Wrote an experimental report to summarize progress & problems and briefed the project leader

Institute of Biophysics, Chinese Academy of Sciences Beijing, China

A national institute focusing on protein sciences, life sciences, infection and immunity, etc. in China

Research Assistant **Jun 2019 – Sep 2019**

- Designed and conducted experiment for the Key Laboratory of Protein and Peptide Drugs
  - Assisted with R&D experiment of a therapeutic drug for malignant tumors during the in vivo phase
  - Recorded the proliferation and differentiation of tumors at different stages in mice for further analysis
  - Observed the drug's therapeutic & sides effects in mice; tested the effectiveness with different doses

RESEARCH EXPERIENCE

Akbari Lab, University of California, Irvine CA, US

Research Assistant **Feb 2021 – Jun 2022**

- Investigated the correlation between cardiac arrest and CPR
  - Researched various brain metrics during cardiac arrest (i.e. cerebral blood flow & oxygen metabolism)
  - Combined the multimodal data (i.e. EEG, ECG, blood pressure, etc.) and related info (EEG markers, behavioral test results, histology, etc.) to conclude the relation between the metrics and the CPR results
  - **Cerebral hypoxia**—the longer period for cerebral hypoxia, the more likely for coma & brain damage
  - **Oxygen metabolism**—lack of oxygen supply leads to neuronal cell death & irreversible brain damage
- Invented more effective CPR for cardiac arrest
  - Performed data analysis of the mice's performances during cardiac arrest to improve CPR effectiveness
  - Quantified CPR effectiveness and applied data in mice experiment as a guide to improve CPR for human
  - Designed optimal CPR for cardiac arrest patients in different scenarios (i.e. hospital, home & street, etc.)

Zhao Lab, University of California, Irvine CA, US

Research Assistant **Sep 2019 – Dec 2020**

- Assisted with experiment of CAR-T cells targeted by mechanical/ biophysical cues
  - Analyzed the biggest problem for immunotherapy in tumor treatment— "on target-off tumor" effects
  - Determined to apply the unique mechanical properties of tumor nodules on CAR-T cells, follow a new approach to target directly the existing biophysical cues, and develop a new drug to achieve precise targeting
- Researched biophysical properties of malignant tumors: especially the formation of tumor sclerosis and fibrosis
- Observed the changes of immune cells, especially CAR-T cells, in the tumor microenvironment— How immune cells target cancerous tissues, how the environment affects differentiation of immune cells, & pathway of the cells

SKILLLS

Technical Skills: SQL**,** Python, R, SAS, MATLAB, CAD, LabVIEW

Tools: Excel, PowerBI, Azure, ArcGIS Pro

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