

(626) 993-0786  
Irvine, CA  
xiwenj@ics.uci.edu

# Xiwen (Josie) Jiang

Data Scientist

Portfolio: [xiwenjiang.github.io](https://xiwenjiang.github.io)  
[github.com/xiwenjiang](https://github.com/xiwenjiang)  
[linkedin.com/in/xiwen-jiang-115202224](https://linkedin.com/in/xiwen-jiang-115202224)

## PROFESSIONAL PROFILE

Passionate Data Scientist with a Ph.D., mainly focused on user behavior, experience, and engagement, with a solid background in data science and statistics, and extensive experience using data insights to drive business growth.

- **Strategic Problem Solver:** Proficient in defining and dissecting complex business challenges, utilizing advanced statistical techniques, and modeling to drive solutions.
- **Efficiency-Focused Modeler:** Adept at developing, implementing, and optimizing data models to reduce costs and enhance operational efficiency.
- **Business Growth Driver:** Employs data science and statistics to uncover trends, patterns, and assess statistical significance, creating pathways to increase revenue and achieve tangible business results.
- **Technical Proficiency:** Skilled in data extraction and curation using SQL, and adept at data analysis and interpretation through Python and R.
- **Insights Communication:** Proficient in crafting compelling data visualizations to convey insights and recommendations to diverse stakeholders.

## EDUCATION

PhD in Statistics, University of California, Irvine (UCI)	(Expected) Dec 2024
Master of Science in Statistics, University of California, Irvine (UCI)	Jul 2019 — Jun 2021
Bachelor of Science in Statistics, University of California, Los Angeles (UCLA)	Jul 2016 — Jun 2019
Outstanding Graduate Teaching Assistant, Department of Statistics at UCI	2021
Dean's List, Department of Statistics at UCLA	2016 — 2019

## SKILLS

Tools and Languages	Python (Pandas, NumPy, ScikitLearn, Matplotlib), R, SQL, Spark, SAS, STATA, SPSS, $\text{\LaTeX}$ , Tableau, CSS, Bash, Markdown
Quantitative Research	AB Testing, Time Series Analysis, Spacial Analysis, Network Graph Analysis, Mathematical optimization, Statistical Modeling, Machine Learning, Natural Language Processing, Survival Analysis
Communication	English, Mandarin, Cantonese

## WORK EXPERIENCE

**Nike** Jun 2023 — Aug 2023  
*Data Scientist Intern*

**Sequential A/B Testing Methodology for Cost Reduction in Nike** Beaverton, OR

- **Methodology Enhancement:** Streamlined the A/B testing methodology for Nike Direct, reducing time and resource expenses by over 50% compared to conventional methods.
- **Automated Data Processing:** Developed a comprehensive suite of automated scripts to enhance data computation and analysis, facilitating the newly implemented sequential A/B Testing method.
- **Efficiency-Boosting Project:** Independently conceptualized, developed, and implemented a transformative R package and interactive ShinyApp, instrumental in elevating daily operational efficiency.
- **Cost Reduction Projection:** Proactively projected a potential yearly cost reduction of \$6 million for the Nike Direct organization through the implementation of the optimized sequential A/B testing method.

**Children's Health Orange County (CHOC)** Jun 2022 — Jun 2023  
*Research Data Scientist Intern*

**Innovative Research on COVID-19 and Cardiovascular Disease Correlation** Orange, CA

- **Data Exploration and Preparation:** Leveraged Python and R to efficiently clean, organize, and conduct comprehensive statistical analyses on a complex and imbalanced longitudinal dataset. This process allowed for precise data evaluation and ensured high-quality results.
- **Correlation Analysis:** Explored the intricate relationship between cardiovascular conditions and COVID-19 severity. This innovative approach led to valuable contributions to a collaborative research paper slated for submission to JAMA Network Open.
- **Model Development:** Constructed a robust model for estimating the impact of COVID-19 severity on cardiovascular conditions. Through this model, meaningful statistical inferences were drawn from the data, providing critical insights into health outcomes.

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## RESEARCH EXPERIENCE

### Innovative Approach for Modeling Time Series Network Data

2021 — 2023

*Dynamic Network Data Estimation and Recovery Structure*

Irvine, CA

- **Revolutionizing Network Trend Estimation:** Identified limitations in existing models for modeling time series network data and developed the pioneering "block-structured dynamic exponential-family random graph models" (ERGMs). These innovative models improved trend estimation accuracy.
- **Enhanced Real-World Applications:** Applied ERGMs to analyze real-world data, including complex interbank transaction networks and intricate political blog citation networks. Demonstrated the practicality and effectiveness of the approach, with potential applications in financial risk assessment, network security, and social network analysis.
- **Publication and Recognition:** Published as the first author in the journal "*Stat*" illustrating the project's significance and recognition within the scientific community. It contributes to advancing the field of dynamic network trend estimation and can pave the way for more accurate predictions in network-related domains.

### Amazon Customer Sentiment Analysis and Sales Prediction

2021 — 2022

*Analyze Amazon customer sentiment and sales data to make data-driven predictions*

Irvine, CA

- **Effective Data Collaboration and Management:** Collaborated seamlessly within a diverse team of economists and data analysts to manage a substantial dataset of over 2 million questions and answers from Amazon customers. The rigorous organization and evaluation of this dataset ensured data integrity and accessibility.
- **Extracting Valuable Customer Insights:** Utilized advanced Natural Language Processing (NLP) techniques for sentiment analysis on the textual data. Extracted nuanced sentiments and valuable insights from customer interactions, demonstrating the ability to uncover meaningful information within complex textual data.
- **Enhancing Data-Driven Decision-Making:** Employed Vector Autoregressive (VAR) modeling as part of a team effort to assess the correlation between product sales ratings and sentiment scores. Leveraged these models to make data-driven predictions for future sales ratings, contributing to informed decision-making.
- **Potential Business Applications:**
  - **E-commerce:** The sentiment analysis and sales prediction techniques developed can be applied to e-commerce platforms beyond Amazon, helping businesses understand customer sentiment and make informed decisions to optimize their sales strategies.
  - **Customer Experience Enhancement:** The ability to extract nuanced sentiments from customer interactions can be instrumental in improving customer experience and tailoring services to meet customer expectations.
  - **Marketing Strategy Optimization:** Data-driven predictions for future sales ratings provide a foundation for optimizing marketing strategies, enhancing product visibility, and potentially increasing sales revenue.

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## PUBLICATIONS

Jiang, X., Margarita Livas, S., Yin, F., Banerjee, S., Butts, C. T., & Shen, W. (2023). Structure recovery and trend estimation for dynamic network analysis. *Stat*, 12(1), e593. ([link](#))

Jiang, X., & Shen, W. (n.d.). Simultaneous denoising and heterogeneity learning for time series data. *Statistics in Biosciences*. ([link](#))

Garó, H., Jiang, X., Grant, C., & et al. (2023). Survival impact of post-operative immunotherapy in resected stage iii cutaneous melanomas in the checkpoint era. *ESMO Open*. (Under Review)

Lewis, S. A., Sureshchandra, S., Zulu, M. Z., Doratt, B., Jankeel, A., Ibraim, I. C., & Messaoudi, I. (2021). Differential dynamics of peripheral immune responses to acute SARS-CoV-2 infection in older adults. *Nature Aging*, 1(11), 1038-1052. ([link](#))

Sureshchandra, S., Chan, C., Robino, J., & et al., L. (2022). Maternal western-style diet remodels hematopoietic stem and progenitor cells in the bone marrow of fetal rhesus macaques. *Stem Cell Reports*. ([link](#))