

# Irene Zhang

Phone: (847) 987-5095

irene0516@g.ucla.edu

Aspiring PhD student with a strong interest in Biostatistics research. Focused on the application of statistical methodologies to the analysis of biological data, particularly regarding clinical trials and mental illness research. Passionate about leveraging quantitative tools to advance healthcare.

---

## EDUCATION

University of California, Los Angeles (UCLA)

Los Angeles, CA

Bachelor of Science in Statistics and Data Science (GPA: 3.88)

Sept 2021 - Jun 2025

Minor in Public Health

Lexington High School

Lexington, MA

Honors Roll (GPA: 4.0)

Sept 2017 - Jun 2021

---

## RESEARCH

National Institute of Biostatistics,

Irvine, CA

Irvine Summer Institute in Biostatistics and Undergraduate Data Science

Jun 2024 - Present

*Research Assistant @ University of California, Irvine*

**Supervisor:** Dr. Maria Corrada, Dr. Tianchen Qian

**PI:** Jiaxin Yu

- Established causal link between hypertension and late-stage dementia using inverse probability weighting on 90+ Study and Leisure World Cohort data (n=559), showing 41% lower odds of dementia for individuals with hypertension.
- Worked with Dr. Maria Corrada and Dr. Tianchen Qian to manage missing data with Multiple Imputation by Chained Equations (MICE) and accounted for imputation uncertainty by applying Rubin's Rule, allowing applied logistic/multivariate regression.
- Experimenting with machine learning (Random Forests, General Additive Models) and more efficient causal inference techniques (Doubly Robust Method), resulting in more robust findings.
- Presented findings to 50+ professors and students at SIBS sponsored research symposium.

Dr. Zili Liu's Perceptual Processing and Computational Lab

Los Angeles, CA

*Research Assistant @ UCLA*

Jan 2024 - Present

**Supervisor:** Dr. Zili Liu

**PI:** Maggie Yeh

- Conducted research on visual perceptual learning and its generalization through video games, focusing on experimental design, data collection, and data analysis.
- Troubleshooted technical issues, adjusted testing protocols, and addressed confounding variables to strengthen data reliability under principal investigator, Dr. Maggie Yeh.
- Managed participant interactions, calibrated eye trackers and monitors, standardized protocols, and streamlined data collection under principal investigator, Dr. Maggie Yeh to minimize confounding of experimental conditions.

- Performed logistic regression on binary visual task trials to plot psychometric curves predicting participant performance using R and Python.

---

## PROJECTS

### How “Gym Bro” Are UCLA Students?

Apr 14, 2023

- Conducted a survey of 188 UCLA students to analyze gym habits, preferences, and behaviors, focusing on metrics like frequency, gym choice, and focus areas.
- Performed data analysis in Python, identifying a positive correlation between gym frequency and self-reported proficiency.
- Presented findings to an audience of 100, effectively communicating insights with data visualizations.

### An Investigation of the K-pop Craze

Jan 19, 2023

- Analyzed 70 hit K-pop songs (2016-2021) to identify trends in release timing, fan demographics, and musical features using public datasets and statistical software.
- Utilized Spotify Web API to examine correlations between song attributes, identifying factors influencing popularity and fan engagement.
- Presented findings to 100+ members, communicating insights, trends through data visualizations.

---

## HONORS & AWARDS

### Dean’s Honors List

4 Quarters

### 13th Annual American Statistical Association DataFest Hackathon

Apr 2024

#### *Finalist*

- Top finalists out of 80+ teams, tackling statistics educational data using R.

---

## PROFESSIONAL SERVICE AND LEADERSHIP

### UCLA Statistics Club

Oct 2021 - Present

| *American Statistical Association - Datafest Workshop Committee*

Oct 2021 - Jun 2024

| *American Statistical Association - Datafest Co-Chair*

Sept 2024 - Present

- Assisted in coordinating UCLA’s largest data science hackathon, engaging 500+ participants and 14 organizational sponsors, opener presenter for event.
- Managed a team of workshop coordinators, organizing educational sessions on R, Python, Tableau, and machine learning.
- Led the media team in creating promotional materials and managing social media campaigns, gaining 100+ new followers and maximizing event visibility.
- Collaborated with advisors to provide updates, seek guidance, and address concerns to optimize event planning and outcomes.

### DataResolutions Club

Oct 2021 - Present

| *Director of External Outreach*

Oct 2021 - Jun 2024

- Introduced professional development workshops on Data Science programming languages, ML models, and career talks, increasing awareness of Data Science and its applications in Math and AI, increased attendances by 25%.
- Partnered with 5 startups to establish 10 Data Science consulting projects, offering hands-on experience for 30 members.
- Coordinated with 10 companies to host Data Science career fair with 900 attendees, building networking and job prospects.

| *Data Blog Chair*

Sept 2024 - Present

- Oversaw and closely manage 45 data science students, guiding them in deriving insights from complex datasets to create engaging Medium articles.
  - Led workshops on data storytelling and visualization best practices, teaching students how to transform raw data into clear, compelling narratives, boosting attendance by 20%.
  - Provided comprehensive feedback on nine articles and 100+ graphs, offering critiques and recommendations to ensure high-quality final submissions.
- 

## PUBLIC SERVICES

Biokind Analytics

Sept 2023 - Jun 2024

*Claris Health*

- Delivered donor retention data analytics and statistical modeling services to Los Angeles healthcare nonprofits, optimizing donor engagement strategies to generate more donations.
- Analyzed \$2,000,000 in donor data, using predictive models to forecast trends and evaluate fundraising campaign performance, providing recommendations to enhance resource allocation, target high-value donors, and refine outreach strategies.
- Presented findings to professors and healthcare directors, translating technical data into actionable insights to improve campaign outcomes.

DataResolutions

Oct 2021 - Present

| *Subtle Asian Real Estate Ladies*

Mar 2023 - Jun 2023

- Performed thorough data analysis despite limited, 60 participant dataset size, employing advanced analytical techniques in Python to inform decision-making processes.
- Interpreted and presented findings from 8 graphs, guiding diverse community of 21,000 + AAPI investors in making informed investment decisions.
- Effectively communicated complex data insights to the board, fostering data literacy and facilitating understanding across stakeholders.

| *OkTY*

Sept 2023 - Dec 2023

- Analyzed, cleaned 10,000+ lines of location, user, transaction data to evaluate individual user portfolios, aiming to bring the right product to the right person at the right time.
- Developed real-time tracking and aggregation systems for geographic location data to serve an international customer base of 2+ continents and 40+ states.
- Presented nuanced findings to OKTY founder and engaged in further discussion via Zoom to address inquiries and provide clarification.

| *Chelle AI*

Jan 2024 - Mar 2024

- Developed knowledge graphs from NextJS data with Python and NetworkX using the integration of OpenAI embeddings.

- Used HTML Web Scraping, BeautifulSoup, package to explore the structure of NextJS documents for webscraping.
- Presented nuanced findings to Chelle AI founder and engaged in further discussion via Zoom to address inquiries and provide clarification.

### Bruin Public Health

Jan 2023 - Jun 2023

#### *Research Team*

- Produced educational content addressing public health concerns through creation of one or more informative posts, effectively conveying the severity of the issues to readers.
- Compiled and synthesized information from diverse sources, presenting complex data in an accessible format tailored for the general public.
- Collaborated with club members and a professor to craft a comprehensive paper synthesizing the findings of the campaign, fostering interdisciplinary dialogue and knowledge dissemination.

---

## EXTRACURRICULAR

### ComAssist Associates Inc

Boston, MA

#### *Part time Clinical Programming Associate*

Jun 2023 - Present

- Validated clinical trial tables output according to statistical programming specifications and industry standards, ensuring accuracy and compliance.
- Examined adverse event outputs across different therapeutic areas to generate simplified listings suitable for presentation purposes.
- Maintained output quality and adherence to timelines by meticulously cross-checking 20 outputs to meet established standards.

### OSAKA UNIVERSITY

Osaka, Japan

#### *Study Abroad Student Learning Japanese*

Jun 2023 - Aug 2023

- Completed intensive 2-month program, advancing from beginner to Japanese Level N4 with a focus on grammar, vocabulary, reading, writing, and conversation.

---

## RELEVANT COURSEWORK

### Statistics

**Introduction:** Statistical Reasoning, Statistical Programming with R, Probability, Mathematical Statistics, Linear Models, Design and Analysis of Experiment, Data Analysis and Regression, Regression and Data Mining, Computational Statistics with R, Computation and Optimization for Statistics, Monte Carlo Methods

**Will complete:** Practice of Statistical Consulting (Winter & Spring 25)

### Math

Calculus of Several Variables, Linear Algebra and Applications, Differential Equations, Linear Algebra, Real Analysis

## Public Health

Principles of Epidemiology, **Introduction:** Biostatistics, Community Health Sciences, Environmental Health,

**Will complete:** *Biostatistics in Public Health (Winter 25), Introduction to Environmental Health (Winter 25), Health Care Systems and Health Policy (Winter 25)*

## Biology/Chemistry

Stem Cell Biology, Politics, and Ethics: Teasing Apart Issues, Issues in Human Physiology: Diet and Exercise

---

## **SKILLS**

Languages

- English (Fluent), Chinese (Conversational), Japanese (Novice)

Laboratory/Clinical

- Time Management, Teamwork, Data Analysis, Data Graphing, Data Collection, Data Presentation, Data Cleaning, Literature Review, Teamwork

Coding

- R (Professional), Python (Competent), Microsoft Excel (Competent), SAS (Novice), Git (Competent), Github (Competent)
-