

# Rhiann Zhang

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## ANALYTIC SKILLS

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- **Languages and Software:** Python, R, SQL, Git, HTML, bash scripting, C++, Markdown, Power BI, LaTeX
- **Libraries:** Pandas, NumPy, Matplotlib, seaborn, Plotly, scikit-learn, SciPy, PySAL, tidyverse (ggplot2, dplyr)

## EDUCATION

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### University of California, Berkeley

Aug 2021 - May 2022

*Master of Arts in Statistics*

GPA: 3.81

- Relevant Coursework: Applied Machine Learning, Statistical Computing, Advanced Statistics, Advanced Probability, Linear Models, Urban Informatics and Visualization

### University of California, Riverside

Sept 2017 - Mar 2021

*Bachelor of Science in Mathematics*

GPA: 3.97

- **Chancellor's Honor List & Dean's Academic Distinction Award**
- Relevant Coursework: Numerical Analysis, Intermediate Analysis, Applied Linear Algebra, Multivariable Calculus, Discrete Structures, Number Theory, Mathematics Education

## SELECTED PROJECTS

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### Geospatial Explanatory Modeling of U.S. Drug Epidemic

Jan 2022 - May 2022

- Procured and cleaned over 500 datasets and performed backward stepwise feature selection in tandem with OLS regressions to determine county features that best explain drug overdose rates
- Conducted geospatial-significance analysis, achieved normalized RMSE of 0.078, and developed recursive estimation procedure to fill in map previously missing overdose rates
- Effectively collaborated with a team of four graduate students to conceptualize, organize, develop, and present all findings of research

### Analysis of AP Exam Participation

Feb 2022 - May 2022

- Implemented linear regressions, random forests, and entity-demeaned fixed effect modeling to explore school characteristics most related to AP exam participation using datasets with over 100,000 observations
- Effectively communicated findings by creating interactive Plotly maps across time and GitHub Pages website

### genetic-selectR Package Development

Nov 2021 - Dec 2021

- Developed an R package implementing a genetic algorithm that efficiently selects the most optimized combination of covariates from multidimensional datasets for generalized linear modeling
- Constructed and performed rigorous testing on several dynamic functions carrying out operations such as fitness calculation, genetic mutation, allele cross over, and parent selection

## RESEARCH EXPERIENCE

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### Research Assistant in Persistent Homology

Feb 2020 - June 2020

University of California, Riverside (UCR), Riverside, CA

- Studied and applied topological data analysis to evaluate the algebraic facets of the persistence of holes in a given space and display high dimensional data trends
- Developed Python code that utilized persistent homology to successfully identify possible academic misconduct in student typing patterns collected by online proctoring sites