

# Yuyao Wang

Email: yuw079@ucsd.edu | Website: <https://wangyuyao98.github.io>

## EDUCATION

<b>PhD in Mathematics with Specialization in Statistics</b> <i>University of California San Diego. Advisor: Ronghui (Lily) Xu</i>	2019 - 2025
<b>MA in Mathematics</b> <i>University of California San Diego</i>	2019 - 2022
<b>BS in Mathematics</b> <i>Xi'an Jiaotong University</i>	2015 - 2019

## FELLOWSHIPS

Halicioglu Data Science Institute (HDSI) Graduate Prize Fellowship, UC San Diego, 2019 - 2023.

## AWARDS

Student Paper Competition Award, Lifetime Data Science Conference (LiDS), 2023.  
Society for Causal Inference (SCI) Travel Scholarship, 2024.  
UCSD GPSA Travel Grant Award, 2024.  
UCSD GPSA Travel Grant Award, 2025.

## PUBLICATIONS

- Wang, Y.**, Ying, A., Xu, R. (2024) Doubly robust estimation under covariate-induced dependent left truncation. *Biometrika*, 111(3), 789-808.  
(*Won the Student Paper Competition Award at 2023 Lifetime Data Science Conference*)
- Peng, Y., **Wang, Y.**, Xu, R. (2023). Measures of explained variation under the mixture cure model for survival data. *Statistics in Medicine*, 42(3), 228-245.

## ARXIV PREPRINTS

- Wang, Y.**, Ying, A., Xu, R. (2024) A Liberating Framework from Truncation and Censoring, with Application to Learning Treatment Effects. *arXiv:2411.18879*.

## SOFTWARE

### R packages:

- truncAIPW**: Doubly Robust Estimation under Covariate-Induced Dependent Left Truncation
- aftR2**: R-Squared Measure under Accelerated Failure Time (AFT) Models

## RESEARCH EXPERIENCE

<b>Biostatistics internship</b> <i>St. Jude Children's Research Hospital, Memphis, TN   Mentor: Kendrick Li</i> <ul style="list-style-type: none"><li>Developed inverse probability weighting approaches for handling the selection bias involved in the SJLIFE cancer survivorship study under semi-competing risks settings.</li><li>Conducted simulation studies and analyzed the cardiotoxicity of childhood cancer treatments using SJLIFE data.</li><li>Derived the efficient influence curve for a general Z-estimand under semi-competing risks settings with covariate dependent left truncation.</li></ul>	June – August 2024
<b>Research Assistant</b> <i>University of California San Diego, La Jolla, CA   Supervisor: Ronghui Xu</i> <ul style="list-style-type: none"><li>Analyzed factors that protect against the development of Alzheimer's Disease neuropathological changes using brain autopsy data from Honolulu Asia Aging Study.</li></ul>	October 2023 – June 2024

- Applied inverse probability weighting approaches for handling the selection bias from double truncation.

## Research Assistant

2023 - 2024

*UCSD-based Organization of Teratology Information Services research center | Supervisor: Ronghui Xu*

- Helped with the statistical analysis plan for assessing the safety of medications during pregnancy; particularly in addressing challenges in analyzing the effect of different timings of exposure in the presence of the selection bias due to left truncation.
- Attended weekly statistics group meeting.

## PRESENTATIONS

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### Talks

Proximal Survival Analysis for Dependent Left Truncation.

- Joint Statistical Meetings, 2025

Learning Treatment Effects under Covariate Dependent Left Truncation and Right Censoring.

- Lifetime Data Science Conference, 2025
- Online Causal Inference Seminar (OCIS), November 5, 2024
- Biostatistics Seminar, Department of Population Medicine, Harvard Pilgrim Health Care Institute, 2024
- Causal Inference Seminar, Boston University, 2024
- Causal Group Seminar, Carnegie Mellon University, 2024
- Joint Statistical Meetings, 2024
- Southern California Applied Mathematics Symposium, 2024

Doubly Robust Estimation under Covariate-induced Dependent Left Truncation

- McGill Statistics Seminar, 2023
- Joint Statistical Meetings, 2023
- Lifetime Data Science Conference, 2023

### Posters

Learning Treatment Effects under Covariate Dependent Left Truncation and Right Censoring.

- Public Health Research Day at UCSD, 2025

Doubly Robust Estimation of Treatment Effects under Covariate Dependent Left Truncation and Right Censoring.

- American Causal Inference Conference, 2024
- Public Health Research Day at UCSD, 2024

Multiply Robust Estimation of Treatment Effect for Time-to-event Outcome under Dependent Left Truncation.

- American Causal Inference Conference, 2023
- Public Health Research Day at UCSD, 2023

Semiparametric Estimation for Non-randomly Truncated Data.

- American Causal Inference Conference, 2022
- Public Health Research Day at UCSD, 2022

## JOURNAL REVIEWS

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Biometrics (1), Statistics in Medicine (1), ICML (1), International Journal of Biostatistics (1)

## TEACHING EXPERIENCE

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### Teaching Assistant

2019 - 2025

*University of California San Diego, La Jolla, CA*

- Statistics and biostatistics courses: Lifetime Data Analysis; Applied Survival Analysis; Introduction to Mathematical Statistics; Introduction to Computational Statistics; Data Analysis and Inference; Calculus-Based Probability and Statistics
- Data science courses: Data Science Project (capstone)
- Math courses: Calculus

## OTHER EXPERIENCE

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- Co-organized the invited session “Recent Advances in Causal Inference to Address Complexities in Real-world Data” for 2025 Joint Statistical Meetings.
- Co-organized the topic-contributed paper session “Recent Advances in Biased Sampling, Generalizability and Transportability” for 2025 Joint Statistical Meetings.
- Member of the Scientific Organizing committee for 2025 International Conference on Health Policy Statistics.
- Co-organized the topic-contributed paper session “Causal Inference with Complex Missing Patterns” at 2024 Joint Statistical Meetings.
- UCSD Association of Women in Math (AWM) Colloquium coordinator, 2024.
- Mentor in the Math Graduate Mentorship Program at UC San Diego, 2020, 2021, 2024.
- Mentor in the High School Math Program at UC San Diego, Summer 2023.