

# Zi Wang

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## EDUCATION

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Ph.D. Statistics, University of Pittsburgh, Jul 2025 (expected)  
M.S. Applied Statistics, University of Michigan, Apr 2020  
B.S. Statistics, University of Science and Technology of China, Jul 2018

## RESEARCH INTERESTS

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Dynamic treatment regimes  
Sequential multiple assignment randomized trial (SMART)  
Causal inference  
Survival analysis

## PUBLICATIONS and MANUSCRIPTS

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1. Wang, Z., **Wang, Z.**, Lyu, L., Cheng, Y., Seaberg, E. C., Molsberry, S. A., Ragin, A., Becker, J. T. (2023) "Dynamic impairment classification through arrayed comparisons" *Statistics in medicine*, 42(1), 52-67.
  - Conducted real-time classifications of cognitive impairment based on historical Multicenter AIDS Cohort Study (MACS) data, controlling family wise error rate
2. He, Y. **Wang, Z.**, Xu, G. (2021) "A note on the likelihood ratio test in high-dimensional exploratory factor analysis" *Psychometrika*, 86(2), 442-463.
  - Derived conditions for the Chi-square approximation in high-dimensional factor analysis to hold and refined the factor selection procedure to improve its accuracy
3. **Wang, Z.**, Cheng, Y., Wahed, A.S. (2025+) "Interim Analysis in Sequential Multiple Assignment Randomized Trials for Survival Outcomes", *arXiv preprint arXiv:2504.03143*.  
**Student Poster Recognition Award for 2024 ASA Biopharmaceutical Workshop.**
  - Proposed interim analysis procedures for complex SMART trials to reduce sample sizes while controlling type I error and maintaining statistical power
4. **Wang, Z.**, Cheng, Y. (2025+) "Nonparametric Estimation of Subgroup Mediation Effects with Semi-Competing Risks Data", *Submitted*. **ICSA Student Poster Award.**
  - Proposed nonparametric estimators of causal mediation effects, which reduce computing time compared to EM algorithm
5. Wang, B., **Wang, Z.**, Cheng, Y. (2025+) "Generalized Win-Odds Regression Models on Composite Endpoints", *Submitted*.
  - Proposed proportional Win Odds regression models to evaluate the treatment effect on multiple outcomes while controlling for other risk factors

## PROFESSIONAL EXPERIENCE

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**Technical Intern**, Gilead Sciences, Foster City, CA May 2022–Aug 2022

- Implemented novel basket trial designs: pooling basket trial design and clustering basket trial design
- Designed numerical experiments and performed simulations using cloud computing on Amazon Web Service (AWS) to compare the performance of the popular basket trial designs
- Optimized clustering basket trial design and illustrated its improvement (e.g., 20% reduction regarding expected sample size) via Phase II/III Gilead Filgotinib studies using R and SAS

**Graduate Research Assistant**, University of Pittsburgh, Pittsburgh, PA May 2022–Aug 2025  
With Prof. Yu Cheng and Abdus S. Wahed

**Student Consultant**, University of Michigan, Ann Arbor MI May 2019–Dec 2019

- Produced reports and suggestions in statistics-related areas such as data modeling using mixed models, multiple imputation of missing data, and survival analysis for clients
- Met with clients to troubleshoot and resolve technical software challenges, optimizing the use of analytical tools such as R, Python, SPSS, and high-performance computing

**Graduate Research Assistant**, University of Michigan, Ann Arbor, MI Apr 2019–Apr 2020  
With Prof. Gongjun Xu

## TEACHING EXPERIENCE

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**Independent Instructor**, STAT 0200: Basic Applied Statistics Summer 2023

- Taught the class independently for 22 students with 4 lectures each week
- Supervised teaching assistant and led in developing recitation lesson plans based on semester benchmarks
- Implemented team problem-solving strategies and encouraged students to actively participate and share ideas in the classroom

**Teaching Assistant**, STAT 1000: Applied Statistical Methods Summer 2021

**Teaching Assistant**, STAT 1100: Stat and Probability for Business Management Spring 2021, 2022

**Teaching Assistant**, STAT 1151: Introduction to Probability Fall 2020, 2021

**Teaching Assistant**, STAT 507: Data Science in Python Spring 2020

## HONORS AND AWARDS

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Dr. Henry Block Award for Outstanding Senior PhD Student, 2025

Student Poster Recognition Award for 2024 ASA Biopharmaceutical Workshop, 2024

ICSA Student Poster Award, 2024

Graduate and Professional Student Government (GPSG) Travel Grant, 2024

Dietrich School of Arts and Sciences Summer Research Fellowship, 2021, 2025

Outstanding First Year Applied Masters Student Award, 2019

Excellent Graduate Student, 2018

## PRESENTATIONS

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### *Oral-Contributed Presentations*

- “Interim analysis in sequential multiple assignment randomized trials for survival outcomes”
  - JSM, Nashville, Aug 2025 (scheduled)
  - ENAR, New Orleans, March 2025

### *Poster Presentations*

- “Nonparametric estimation of subgroup mediation effects with semi-competing risks data”
  - Keystone State Statistics Symposium, State College, Oct 2023
  - ICSA, Nashville, June 2024
- “Interim analysis in sequential multiple assignment randomized trials for survival outcomes”
  - ASA Pittsburgh Chapter Poster Session, Pittsburgh, Apr 2024, 2025
  - ICSA China, Wuhan, June 2024
  - ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Rockville, Sep 2024
  - Keystone State Statistics Symposium, Pittsburgh, Oct 2024

## PROFESSIONAL MEMBERSHIPS

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1. American Statistical Association 2022-present
2. International Biometric Society (ENAR) 2023-present
3. International Chinese Statistical Association 2023-present

## PROFESSIONAL SERVICE

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1. Student volunteer for 2nd Keystone State Statistics Symposium, Oct 2024
2. Journal reviewer: Biometrics

## REFERENCES

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### **Yu Cheng**

Professor of Statistics  
University of Pittsburgh  
WWPH 1818, 230 Bouquet Street, Pittsburgh, PA 15260  
Phone: 412-648-1851  
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### **Abdus S. Wahed**

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University of Rochester  
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