

PhD Candidate  
Department of Statistics  
North Carolina State University

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## EDUCATION

- Ph.D.** in Statistics, **North Carolina State University**, U.S. (GPA: 4.0/4.0) Ongoing
- Advisor: Prof. Shu Yang
- Master** of Biostatistics, **Duke University** School of Medicine, U.S. (GPA: 4.0/4.0) May 2022
- Thesis: Overlap, inverse probability, and matching weights: what are we weighting for?
  - Advisor: Prof. Roland A. Matsouaka
  - Thesis committee members: Profs. Fan Li (Duke Statistical Science) & Hwanhee Hong
- B.S.**, Mathematics and Applied Mathematics, **Southeast University**, China Jun 2020

## RESEARCH AREA

### Statistical Theory & Methodology

- Causal inference; Propensity score weighting; Observational studies; Covariate adjustment and covariate-adaptive randomization in randomized controlled trials
- Conformal inference; Federated learning
- Semiparametric efficient estimation; Asymptotic statistics

## AWARDS & HONORS

- 2023 **Student Travel Grant**  
ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop (BIOP RISW)
- 2022 **Student Poster Prize**, 3rd place of 47 posters  
Georgia Statistics Day (GSD)
- 2022 **Outstanding Master's Project Award**, first place of methodology thesis project  
Department of Biostatistics & Bioinformatics, Duke University School of Medicine
- 2022 **Overall Academic Excellence Award**, based on GPA  
Department of Biostatistics & Bioinformatics, Duke University School of Medicine

## PUBLICATIONS

\*: equal contribution.

### Peer-reviewed Journal Articles

1. Matsouaka RA, **Liu Y**, and Zhou Y (2023). Variance estimation for the average treatment effects on the treated and on the controls. *Statistical Methods in Medical Research*, **32**(2):389-403.

### Technical Reports / In-preparation

1. **Liu Y**, Li H, Zhou Y, and Matsouaka RA (2023+). Average treatment effect on the treated, under lack of positivity. Submitted to *Statistical Methods in Medical Research*.

2. Matsouaka RA, **Liu Y**, and Zhou Y (2023+). Overlap, matching, or entropy weights: what are we weighting for? Under review at *Communications in Statistics - Simulation and Computation*.  
**\*\* Received Travel Grant from ASA BIOP RISW 2023, Student Poster Prize from GSD 2022, and Outstanding Master's Project Award from Duke B&B**

## PRESENTATIONS & TALKS

### Contributed

- Sep 2023 Poster Presentation  
*ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop (BIOP RISW)*  
 Overlap, matching, or entropy weights: what are we weighting for?  
**\*\* Received Student Travel Grant**
- Jun 2023 Poster Presentation  
*The 36th New England Statistics Symposium (NESS)*  
 Variance estimation for weighted average treatment effect estimators.
- May 2023 Research Lighting Talk  
*Duke Industry Statistics Symposium (DISS)*  
 Causal inference on the treated and on the control under lack of positivity.
- Oct 2022 Poster Presentation  
*Georgia Statistics Day (GSD)*  
 Targeting clinical equipoise via propensity score weighting.  
**\*\* Received Student Poster Prize**
- May 2022 Poster Presentation  
*The 35th New England Statistics Symposium (NESS)*  
 Overlap, inverse probability, and matching weights: what are we weighting for?

## TEACHING

### Teaching Assistant

2023	Fall	ST 370	Probability and Statistics for Engineers	90+ enrolled	NC State
	Summer II	ST 512	Statistical Methods for Researchers II	20+ enrolled	NC State
	Summer I & II	ST 311	Introduction to Statistics	90+ enrolled	NC State
	Spring	ST 311	Introduction to Statistics	150+ enrolled	NC State
2022	Fall	ST 311	Introduction to Statistics	110+ enrolled	NC State

## MENTORING

### Research Mentoring (during PhD period)

		<b>First position</b>
Dezhao Fu	(with Dr. Roland Matsouaka, 2022–2023)	PhD student, GWU Biostatistics
Jiajun Liu	(with Dr. Roland Matsouaka, 2022–2023)	PhD student, Duke Biostatistics

## ADDITIONAL INFORMATION

### Professional Memberships

- Student member, International Biometrics Society, Eastern North American Region (ENAR)
- Student member, International Chinese Statistical Association (ICSA)
- Student member, New England Statistics Symposium (NESS)

**Skills**

- Language: Chinese (Mandarin), English
- Computer: R, SAS, L<sup>A</sup>T<sub>E</sub>X