

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**  
Georgia Statistics Day (GSD)
- 2022 **Outstanding Master's Project Award**  
Department of Biostatistics & Bioinformatics, Duke University School of Medicine
- 2022 **Overall Academic Excellence Award**  
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.

2. Matsouaka RA, **Liu Y**, and Zhou Y (2023+). Overlap, matching, or entropy weights: what are we weighting for?

**\*\* Received Travel Grant from ASA BIOP RISW 2023, Student Poster Prize from GSD 2022, and Outstanding Master's Project Award from Duke.**

## 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 (3rd place of 47).**
- 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**

- ST 370: Probability and Statistics for Engineers NCSU, 2023–
- ST 512: Statistical Methods for Researchers II NCSU, Summer 2023
- ST 311: Introduction to Statistics NCSU, 2022–2023

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

### **Skills**

- Language: Chinese (Mandarin), English
- Computer: R, SAS,  $\text{\LaTeX}$