Yi Liu

PhD Candidate
Department of Statistics
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EDUCATION

Ph.D. in Statistics, **North Carolina State University**, U.S. (GPA: 4.0/4.0) Present
- Thesis advisor: Prof. Shu Yang
- Independent research advisors: Profs. Roland A. Matsouaka & Larry Han

Master of Biostatistics, **Duke University** School of Medicine, U.S. (GPA: 4.0/4.0) May 2022
- Thesis title: Overlap, inverse probability, and matching weights: what are we weighting for?
- Thesis advisor: Prof. Roland A. Matsouaka
- Thesis committee members: Profs. Fan Li (Duke DSS) & Hwanhee Hong

B.S., Mathematics and Applied Mathematics, **Southeast University**, China Jun 2020

RESEARCH AREA

Statistical Theory & Methodology
- Causal inference; Conformal prediction
- Observational studies; Propensity score weighting; Positivity issue
- Randomized controlled trials; Covariate adjustment
- Semiparametric efficient estimation; Asymptotic statistics

AWARDS & HONORS

2023 **Student Poster Recognition Award / Travel Grant**
ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop

2022 **Student Poster Prize**, 3rd place of 47 posters
Georgia Statistics Day

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. In revision at *Statistical Methods in Medical Research*.

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

3. **Liu Y**, Levis A, and Han L (2024+). Federated conformal inference under covariate shift.

4. Gao Y, **Liu Y**, and Matsouaka RA (2024+). Adjusting baseline covariate imbalance in randomized clinical trials: an empirical assessment for current practice.

5. Li H*, **Liu Y***, Liu J, Zhou Y, and Matsouaka RA (2023+). Variance estimation for weighted average treatment effect estimators.

6. **Liu Y**, Li H, Zhou Y, and Matsouaka RA (2023+). Efficient estimation for weighted average treatment effect on the treated.

7. Liu J, **Liu Y**, Zhou Y, and Matsouaka RA (2023+). Valid and efficient estimation for racial disparity on health care expenditure.

PRESENTATIONS & TALKS

Contributed

12/2023	Poster	*Poster Session of Statistics Seminar*, NCSU, Raleigh, NC Overlap, matching, or entropy weights: what are we weighting for?
10/2023	Talk	*CIMA Lab Group Meeting*, NCSU, Raleigh, NC Propensity score weighting under lack of positivity
09/2023	Poster	*ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop*, Rockville, MD Overlap, matching, or entropy weights: what are we weighting for? ** Received Student Poster Recognition Award
06/2023	Poster	*The 36th New England Statistics Symposium (NESS)*, online Variance estimation for weighted average treatment effect estimators
05/2023	Talk	*Duke Industry Statistics Symposium*, online Causal inference on the treated and on the control under lack of positivity
10/2022	Poster	*Georgia Statistics Day*, UGA, Athens, GA Targeting clinical equipoise via propensity score weighting ** Received Student Poster Prize
05/2022	Poster	*The 35th New England Statistics Symposium (NESS)*, online 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	NCSU
	Summer II	ST 512	Statistical Methods for Researchers II	20+ enrolled	NCSU
	Summer I & II	ST 311	Introduction to Statistics	90+ enrolled	NCSU
	Spring	ST 311	Introduction to Statistics	150+ enrolled	NCSU
2022	Fall	ST 311	Introduction to Statistics	110+ enrolled	NCSU

MENTORING

Independent Study Supervision (during PhD period)

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

ADDITIONAL INFORMATION

Professional Memberships

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

Skills

- Language: Chinese (Mandarin), English
- Computer: R, SAS, LaTeX