CHENYIN GAO

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EDUCATION

PhD Statistics, North Carolina State University (NCSU)   Aug. 2019 – May 2024
- GPA: 4.0/4.0
- Research interests: survey sampling, causal inference and data integration (advised by Dr. Shu Yang)
- Mu Sigma Rho, National Statistics Honor Society

BS Statistics, Sun Yat-sen University (SYSU)   Aug. 2015 – May 2019
- GPA: 3.8/4.0. Minor in Finance
- China National Scholarship, Outstanding Undergraduate Dissertation Award

RESEARCH EXPERIENCE

Department of Statistics, North Carolina State University   Raleigh, NC
Research Project, advised by Dr. Shu Yang   Sep. 2020 - Present
- Developed data integration frameworks for causal inference [1], survey sampling [3,4] and missing data analysis [2]
- Focused on causal inferences with sequential treatments via tensor completion [6]

Department of Biostatistics & Bioinformatics, Duke University   Durham, NC
Research Intern, advised by Dr. Anru Zhang   May 2021 - Aug. 2021
- Developed a deep learning framework via low-rank tensor approximated convolutional neural network (CNN) [5]

National Natural Science Foundation of China (NSFC) Program   Guangzhou, China
Research Assistant, Risk Contagion and Network Analysis   Oct. 2017 - Sep. 2018
- Applied lasso-quantile regressions within the GARCH model to capture the paired time-varying tail-risk behavior

WORK EXPERIENCE

Eli Lilly and Company   Indianapolis, IN
Academic Research Intern   May. 2022 – Aug. 2022
- Developed a data-adaptive semi-parametric efficient framework for integrating the historical controls
- Sensitivity analysis for longitudinal studies with flexible machine learning techniques

Department of Statistics, North Carolina State University   Raleigh, NC
Teaching Assistant   Aug. 2020 - Present
- Assisted in one undergraduate-level course and two graduate-level statistic courses

GF Securities Co., Ltd.   Guangzhou, China
Big Data Engineer Intern, IT Dept.   Mar. 2019 - June 2019
- Optimized ETF net position by constraint nonlinear optimization factored in risk control (VaR and CVaR) featuring lightGBM and XGBoost model

Deloitte Enterprise Consulting (Shanghai) Co., Ltd.   Guangzhou, China
Data Analyst, Risk Advisory (RA), FSI   Nov. 2017 - Feb. 2018
- Participated in the overall risk management framework and engaged scenario analysis

PUBLICATIONS/PREPRINTS

[1] S. Yang*, **C. Gao**, X. Wang, and D. Zeng (2022). Elastic integrative analysis of randomized trial and real-world data for treatment heterogeneity estimation, *Journal of the Royal Statistical Society: Series B* (accepted)

[2] **C. Gao***, K. J. Thompson, S. Yang and J. K. Kim (2022). Nearest neighbor ratio imputation with incomplete multinomial outcome in survey sampling. *Journal of the Royal Statistical Society: Series A*, DOI: 10.1111/rssa.12841

[3] **C. Gao*** and S. Yang (2022+). Pretest estimation in combining probability and non-probability samples, *submitted*

[4] **C. Gao***, S. Yang, and J. K. Kim (2022+). Soft calibration for correcting selection bias under mixed-effects models, *in revision*

[5] **C. Gao***, S. Yang, and A. Zhang (2022+). Self-supervised Image Denoising via Low-rank Tensor Approximated Convolutional Neural Network, *submitted*

[6] **C. Gao***, A. Zhang, and S. Yang (2022+). Causal Inference on Sequential Treatments via Tensor Completion, *submitted*

PRESENTATION

- Gao, C., S. Yang, Pretest estimation in combining probability and non-probability samples. *JSM (2022)*, Washington, DC
- Gao, C., P. Acharya, A. Zhang, CNN-based Single Cryo-EM Images Unsupervised Denoisers. Impact Talk presented at: *17th Annual Duke Center for AIDS Research Virtual Fall Scientific Retreat (2021)*, Durham, NC (virtual)

SKILLS

- **Software:** R, SAS, Python, PyTorch, SQL

- **Language:** Chinese (native), English
- **Others:** CFA Level I (link)

AWARDS AND HONORS

- Mu Sigma Rho, National Statistics Honor Society, NCSU, 2021 - present
- Excellent Undergraduate Dissertation, SYSU
- China National Scholarship, China (Awarded for outstanding full-time undergraduates)
- 1st Merit Scholarship, School of Mathematics, SYSU (2/72)
- 1st Prize, China Undergraduate Mathematical Contest in Modeling, CSIAM

ACTIVITIES AND SERVICES

- Reviewer for *AISTATS (2022, 2023)*
- Co-organizer for *BIRS (Banff International Research Station) 5-day workshop, May 22–27, 2022* "Emerging Challenges for Statistics and Data Sciences: Complex Data with Missingness, Measurement Errors, and High Dimensionality" http://www.birs.ca/events/2022/5-day-workshops/22w5010