

# CHAO CHENG

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## EDUCATION

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**Department of Biostatistics, Yale School of Public Health, New Haven** Aug. 2020 – Present  
*Ph.D. student in Biostatistics*

· Advisors: Donna Spiegelman, Ph.D. and Fan Li, Ph.D.

**Department of Mathematical Sciences, Tsinghua University, Beijing** Sep. 2017 – Jul. 2019  
*Master of Applied Statistics*

**School of Business and Management, Donghua University, Shanghai** Sep. 2013 – Jun. 2017  
*Bachelor of Economics in Finance*

## RESEARCH INTERESTS

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Mediation analysis, casual inference, measurement error correction, statistical methods in implementation science, survival analysis

## PEER-REVIEWED PUBLICATIONS

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- 1 **Cheng, C.**, Spiegelman, D., Li, F. (2022). Is the product method more efficient than the difference method for assessing mediation? *American Journal of Epidemiology*, kwac144.
- 2 **Cheng, C.**, Li, F., Thomas, L., Li, F. (2022). Addressing extreme propensity scores in estimating counterfactual survival functions via the overlap weights. *American Journal of Epidemiology*, kwac043.
- 3 Sloan, A., **Cheng, C.**, Rosner, B., Ziegler, G., Smith-Warner, A., Wang, M. (2021). A repeated measures approach to pooled and calibrated biomarker data. *Biometrics*.
- 4 **Cheng, C.**, Spiegelman, D., Li, F. (2021). Estimating the natural indirect effect and the mediation proportion via the product method. *BMC Medical Research Methodology*, 21(1), 1-20.
- 5 **Cheng, C.**, Spiegelman, D., Wang, Z., Wang, M. (2021). Testing gene–environment interactions in the presence of confounders and mismeasured environmental exposures. *G3: Genes, Genomes, Genetics*, 11(10), jkab236.
- 6 **Cheng, C.**, Sloan, A., Wang, M. (2021). Statistical methods for analysis of combined biomarker data from multiple nested case–control studies. *Statistical Methods in Medical Research*, 30(8), 1944-1959.
- 7 **Cheng, C.**, Wang, R., Zhang, H. (2021). Surrogate residuals for discrete choice models. *Journal of Computational and Graphical Statistics*, 30(1), 67-77.
- 8 **Cheng, C.**, Wang, M. (2020). Statistical methods for analysis of combined categorical biomarker data from multiple studies. *The Annals of Applied Statistics*, 14(3), 1146.
- 9 Wang, M., Chen, K., Luo, Q., **Cheng, C.**, (2018). Multi-step inflation prediction with functional coefficient autoregressive model. *Sustainability*, 10(6), p.1691.
- 10 Shen, M., **Cheng, C.**, Huang, C., (2017). The application of non-manual data in targeted poverty alleviation. *The World of Survey and Research*, 12, 43-48. (written in Chinese)

## MANUSCRIPTS IN PROGRESS

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- 1 **Cheng, C.**, Spiegelman, D., Li, F. (2022). Mediation analysis in the presence of exposure measurement error. (*submitted*)

- 2 **Cheng, C.**, Hu, L., Li, F. (2022). Doubly robust estimation and sensitivity analysis for marginal structural quantile models. (to be submitted)
- 3 Mediation analysis with a failure time outcome in the presence of exposure measurement error. (joint work with Drs. Donna Spiegelman and Fan Li)

## WORKING PAPERS

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- 1 Forecasting realized volatility in presence of structure break: A new forecast combination approach. (a technical report revised from my undergraduate thesis, advised by Dr. Man Wang; written in English)

## STATISTICAL SOFTWARE

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`mediateP`: R package to calculate the point and interval estimates of the natural indirect effect, total effect, and mediation proportion, based on the product approach (on CRAN)

## AWARDS & HONORS

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Honorable Mention of Poster Competition, American Causal Inference Conference	2022
JSM Student Paper Award, Statistics in Epidemiology Section, American Statistical Association	2022
Excellent Graduate, Tsinghua University	2019
Excellent Master's Thesis Award, Tsinghua University	2019
Excellent Graduate, Donghua University	2017
Excellent Undergraduate Thesis Award, Donghua University	2017

## PRESENTATIONS & TALKS

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- 1 "Mediation analysis in the presence of exposure measurement error", Joint statistical meetings, Washington, DC, August 2022.
- 2 "Doubly robust estimation and sensitivity analysis for marginal structural quantile models" (Poster Presentation), American Causal Inference Conference, Berkeley, CA, May 2022.
- 3 "Doubly robust estimation and sensitivity analysis for marginal structural quantile models", The 35th New England Statistics Symposium, Storrs, CT, May 2022.
- 4 "Mediation analysis in the presence of exposure measurement error", CMIPS/YCAS working group seminar, Yale University, New Haven, CT, March 2022.
- 5 "Estimating natural indirect effect and mediation proportion via the product method", CMIPS seminar, Yale University, New Haven, CT, October 2020.

## SKILLS AND INTERESTS

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<b>Programming</b>	R, Visual Basic, SAS, Python
<b>Software</b>	L <sup>A</sup> T <sub>E</sub> X, Microsoft Office, Photoshop
<b>Interests</b>	Jogging, Hiking