Jiayi (Jessie) Tong

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Education

- **Ph.D. in Biostatistics, Sep 2019 - May 2024**
  Department of Biostatistics, Epidemiology and Informatics
  Perelman School of Medicine at the University of Pennsylvania
  Advisor: Dr. Yong Chen (Professor of Biostatistics at the University of Pennsylvania)

- **M.S. in Biostatistics, Sep 2019 - Jun 2021**
  Department of Biostatistics, Epidemiology and Informatics
  Perelman School of Medicine at the University of Pennsylvania
  Advisors: Dr. Yong Chen, Dr. Adam Cuker (Associate Professor of Medicine at the Hospital of the University of Pennsylvania)

- **B.S. with High Honors in Applied Mathematics, Sep 2014 - Jun 2017**
  Cum Laude, Phi Beta Kappa, Provost's Honors (2015, 2016, 2017)
  University of California, San Diego
  Honor thesis title: Random Matrices with Blocks of Intermediate Scale: Strongly Correlated Band Random Matrices
  Advisor: Dr. Todd Kemp (Professor of Mathematics, UC San Diego)

Professional Experiences

- **Assistant Professor, Aug 2024 - present**
  Department of Biostatistics
  Johns Hopkins Bloomberg School of Public Health

- **Graduate Research Assistant, Sep 2021 - Jul 2024**
  Department of Biostatistics, Epidemiology and Informatics
  Perelman School of Medicine at the University of Pennsylvania
  Advisor: Dr. Yong Chen

- **Data Scientist and Research Graduate Intern, Jun 2021 - Aug 2021**
  OptumLabs UnitedHealth Group
  Advisors: Dr. Natalie Sheils, Dr. Nazmul Islam

- **Research Assistant, Jan 2018 - May 2019**
  Department of Biostatistics, Epidemiology and Informatics
  Perelman School of Medicine at the University of Pennsylvania
  Advisor: Dr. Yong Chen

Awards & Honors

- **The Observational Health Data Sciences and Informatics (OHDSI) Titan Award for Methodological Research (2023)**
  "to recognize extraordinary contributions by an individual, organization, or team in development or evaluation in analytical methods for clinical characterization, population-level effect estimation, or patient-level prediction"

- **Health Policy Statistics Section of American Statistical Association (ASA) Student Paper Award (2023)**
  "End-to-end secure federated hospital profiling using real-world data"
  Invited to be presented at the invited session of Health Policy Statistics Section at Joint Statistical Meeting at Toronto, Canada in August 2023

- **Best Annals of Applied Statistics (AoAS) papers of the year (2023)**
  "PALM: Patient-centered treatment ranking via large-scale multivariate network meta-analysis"
  Invited to be presented at the invited session of Annals of Applied Statistics at Joint Statistical Meeting at Toronto, Canada in August 2023

- **Best Student Poster Award of the Annual DBEI & CCEB Research Day (2023)**
  "A new end-to-end data aggregation approach for comparing hospital performance without sharing patient-level data"
  Perelman School of Medicine at the University of Pennsylvania

- **American Statistical Association (ASA) Philadelphia Chapter Exceptional Achievement Award for Graduate Students (2022)**
  American Statistical Association (ASA) Phidelphia Chapter

- **Graduate Student Teaching Award (2022)**
  Graduate Group in Epidemiology and Biostatistics (GGEB) University of Pennsylvania

- **Award for Outstanding Data Science Communication and Innovation (2021)**
  OptumLabs UnitedHealth Group, Minnetonka

- **Department Honors in Mathematics (Applied) with High Distinction (2017)**
  University of California, San Diego

- **Honor society: Phi Beta Kappa (2017)**
  University of California, San Diego

- **Provost's Honors (2015, 2016, 2017)**
  University of California, San Diego

Professional Activities & Services

1. **Reviewer of** Journal of Biomedical Informatics (JBI), Research Synthesis Methods (RSM), American Journal of Epidemiology (AJE), PLOS Computational Biology, Pacific Symposium on Biocomputing (PSB), American Medical Informatics Association (AMIA) Annual Symposium

2. **Session chair at JSM 2021, ENAR 2021**
   JSM 2021: "Distributed Regressions in Real-World Data"
   ENAR 2021: "Advanced Methods for Pharmacoepidemiology"

Publications

*: co-first author

Methodological papers (Published)

1. **Tong, J.**, Shen, Y., Xu, A., Luo, C., He, X., Edmondson, M., Li, R., Zhang, D., Lu, Y., Chao, Y., Siegel, L., Sun, L., Shenkman, E.A., Morton, S.C., Malin, B.A., Bian, J., Asch, D.A., and Chen, Y. (2024) Evaluating Site-of-Care-Related Racial Disparities in Kidney Graft Failure Using a Novel Federated Learning Framework. **The Journal of the American Medical Informatics Association**. 31(6), pp.1303-1312.

2. Wu, Q.*, **Tong, J.***, Zhang, B., Zhang, D., Xu, J., Shen, Y., Bailey, C., Bian, J., Christakis, D., Fitzgerald, M., Hirabayashi K., Jhaveri, R., Khaitan, A., Lyu, T., Rao, S., Razzaghi, H., Schwenk, H., Wang, F., Wigvliet, M., Tchetgen Tchetgen, E., Morris, J., Forrest, C.B. and Chen, Y. (2023) Real-World Effectiveness of BNT162b2 Against Infection and Severe Diseases in Children and Adolescents. **The Annals of Internal Medicine**. 2024 Jan 9. **(co-first author)**

3. **Tong, J.**, Luo, C., Sun, Y., Duan, R., Saine, M.E., Lin, L., Peng, Y., Lu, Y., Batra, A., Pan, A., Wang, O., Li, R., Anglin, A., Yang, Y., Zuo, X., Liu, Y., Bian, J., Kimmel, S.E., Hamilton, K., Cuker, A., Hubbard, R.A., Xu, H., and Chen, Y. (2023). Confidence Score: A Data-Driven Measure for Inclusive Systematic Reviews Considering Unpublished Preprints. **The Journal of the American Medical Informatics Association** 2023 Dec 8:ocad248.

4. **Tong, J.**, Luo, C., Islam, M.N., Sheils, N.E., Buresh, J., Edmondson, M., Merkel, P.A., Lautenbach, E., Duan, R. and Chen, Y. (2022). Distributed learning for heterogeneous clinical data with application to integrating COVID-19 data across 230 sites. **nature partner journals (npj) Digital Medicine, 5(1), pp.1-8.**

5. **Tong, J.***, Duan, R.*, Li, R., Scheuemie, M. J., Moore, J. H., and Chen, Y. (2020). Robust-ODAL: Learning from heterogeneous health systems without sharing patient-level data. **Pacific Symposium on Biocomputing**, Vol. 25, pp. 695-706. **(co-first author)**

6. **Tong, J.**, Huang, J., Chubak, J., Wang, X., Hubbard, R., and Chen, Y. (2019) An Augmented Estimation Procedure for EHR-based Association Studies Accounting for Differential Misclassification. **The Journal of the American Medical Informatics Association**, 27(2), pp.244-253.

7. **Tong, J.**, Huang, J., Du, J., Cai, Y., Tao, C. and Chen, Y. (2018) The Use of Likelihood Ratio Test to Identify Rare Adverse Events with Year-varying Reporting Rates for FLU4 Vaccine in VAERS. **American Medical Informatics Association (AMIA) Annual Symposium Proceedings**, Vol. 2018, p. 1544.

8. Wang, X.*, **Tong, J.,*** Peng, S., Chen, Y., and Ning, Y. (2023) Communication-efficient distributed estimation of causal effects with high-dimensional data. **Stat**. (Accepted). **(co-first author)**

9. Lu, Y., **Tong, J.**, Chubak, J., Lumley, T., Hubbard, R.A., Xu, H. and Chen, Y., (2024). Leveraging error-prone algorithm-derived phenotypes: Enhancing association studies for risk factors in EHR data. **Journal of Biomedical Informatics**, p.104690.

10. Zhang, D.,**Tong, J.**, Jing, N., Yang, Y., Luo, C., Lu, Y., Christakis, D.A., Kelleher, K.J., Morse, K., Rogerson, C.M., Carroll, R., Forrest, C.B., and Chen, Y. (2024) Learning Competing Risks Across Multiple Hospitals: One-Shot Distributed Algorithms. **Journal of Biomedical Informatics**. 2024 Jan 18:104595.

11. Zhang, D.,**Tong, J.**, Jing, N., Yang, Y., Luo, C., Lu, Y., Stein, R., Boland, M.R., Carroll, R., Forrest, C.B., and Chen, Y. (2024) Addressing Heterogeneity in Competing Risks Data across Clinical Sites: One-Shot Distributed Algorithms. **Journal of the American Medical Informatics Association**. 2024 Feb 1;150:104595.

12. Duan, R., **Tong, J.**, Sutton, AJ., Asch, DA., Chu, H., Schmid, CH., Chen, Y. (2023) Origami plot: a novel multivariate data visualization tool that improves radar chart. **Journal of Clinical Epidemiology**. 2023 Apr 1;156:85-94.

13. Duan, R., **Tong, J.**, Sutton, AJ., Asch DA., Chu, H., Schmid, CH., Chen, Y. (2023) The origami plot indeed improves the radar plot: response to the letter from Maarten Boers "Does the origami plot really improve the radar plot? Comment on the article by Duan et al". **Journal of Clinical Epidemiology**. 2023 Sep 12:S0895-4356.

14. Duan, R., **Tong, J.**, Lin, L., Levine, L., Sammel, M., Stoddard, J., Li, T., Schmid, CH., Chu, H., Chen, Y. (2023) PALM: Patient-centered treatment ranking via large-scale multivariate network meta-analysis. **The Annals of Applied Statistics**, 17(1):815-37. **(Best Annals of Applied Statistics (AoAS) papers of the year selected by the editors, 2023)**

15. Li, W., **Tong, J.**, Anjum, M., Mohammed, N., Chen, Y. and Jiang, X. (2022). Federated learning algorithms for generalized mixed-effects model (GLMM) on horizontally partitioned data from distributed sources. **BMC Medical Informatics and Decision Making. 2022 Oct 16;22(1):269.**

16. Yin, Z., **Tong, J.**, Chen, Y., Hubbard, R.A. and Tang, C.Y. (2022). A cost-effective chart review sampling design to account for phenotyping error in electronic health records (EHR) data. **The Journal of the American Medical Informatics Association**, 29(1), pp.52-61

17. Hubbard, R. A., **Tong, J.**, Duan, R., Chen, Y. (2020). Reducing Bias Due to Outcome Misclassification for Epidemiologic Studies Using EHR-derived Probabilistic Phenotypes. **Epidemiology**, 31(4), pp.542-550.

18. Li, R., **Tong, J.**, Duan, R., Chen, Y. and Moore, J.H. (2019). Evaluation of phenotyping errors on polygenic risk score predictions. **International Conference on Bioinformatics Models, Methods and Algorithms**, 2019 Aug 4:724534.

19. Luo, C., Islam, M., Sheils, N.E., Buresh, J., Reps, J., Schuemie, M.J., Ryan, P.B., Edmondson, M., Duan, R., **Tong, J.**, Marks-Anglin, A., Bian, J., Chen, Z., Duarte-Salles, T., Fernández-Bertolín, S., Falconer, T., Kim, C., Park, R.W., Pfohl, S.R., Shah, N.H., Williams, A.E., Xu, H., Zhou, Y., Lautenbach, E., Doshi, J.A., Werner, R.M., Asch, D.A., and Chen, Y. (2022). DLMM as a lossless one-shot algorithm for collaborative multi-site distributed linear mixed models. **Nature Communications**, 13(1), pp.1-10.

20. Luo, C., Jiang, Y., Du, J., **Tong, J.**, Huang, J., Lo Re III, V., Ellenberg, S.S., Poland, G.A., Tao, C. and Chen, Y. (2021). Prediction of post-vaccination Guillain-Barré syndrome using data from a passive surveillance system. **Pharmacoepidemiology and Drug Safety**, 30(5), pp.602-609.

21. Duan, R., Luo, C., Schuemie, M.J., **Tong, J.**, Liang, J., Boland, M.R., Bian, J., Xu, H., Berlin, J.A., Moore, J.H., Mahoney, K.B. and Chen, Y. (2020). Learning from local to global - an efficient distributed algorithm for modeling time to event data. **The Journal of the American Medical Informatics Association**, 27(7), pp.1028-1036.

22. Huang, J., Zhang, X., **Tong, J.**, Du, J., Duan, R., Yang, L., Moore, J.H., Tao, C. and Chen, Y. (2019). Comparing drug safety of hepatitis C therapies using post-market data. **BMC Medical Informatics and Decision Making**, 19(4), p.147.

23. Luo, C., Zhang, X., Yang, L., Du, J., **Tong, J.**, Huang, J., Tao, C. and Chen, Y., (2019), August. Rare adverse effects analysis of new generation hepatitis C medications using EMR and FAERS data. **Pharmacoepidemiology and Drug Safety**, Vol. 28, pp. 580-581.

24. Huang, J., Zhang, X., **Tong, J.**, Du, J., Duan, R., Yang, L., Moore, J.H., Chen, Y. and Tao, C. (2018). Comparing adverse effects of Hepatitis C drugs using FAERS data. **In 2018 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)** (pp. 1653-1656). IEEE.

Scientific papers (Published)

25. **Tong, J.**, Duan, R., Li, R., Luo, C., Moore. J.H., Zhu, J., Foster, G.D., Volpp, K.G., Yancy, W.S., Shaw, P.A., and Chen, Y. (2023). Quantifying and correcting bias due to outcome dependent self-reported weights in longitudinal study of weight loss interventions. **Scientific Reports**. 2023 Nov 4;13(1):19078.

26. **Tong, J.**, Chen, Z., Duan, R., Lo-Ciganic, W., Lyu, T., Tao, C., Merkel, P., Kranzler, H., Bian, J., Chen, Y.. (2020) Identifying Clinical Risk Factors of Opioid Use Disorder using a Distributed Algorithm to Combine Real-World Data from a Large Clinical Data Research Network. **AMIA Annu Symp Proc.** Vol. 2020, p. 1220

27. He, X., Wei, R., Huang, Y., Chen, Z., Lyu, T., Bost, S., **Tong, J.**, Li, L., Zhou, Y., Li, Z. and Guo, J., (2024). Develop and validate a computable phenotype for the identification of Alzheimer's disease patients using electronic health record data. **Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring**, 16(3), p.e12613.

28. Abene, J., **Tong, J.**, Chen, Y., Chao, A. (2023) Binge Eating and Food Insecurity: A Systematic Review. **International Journal of Eating Disorders**. 2023 Apr 11.

29. Djulbegovic, M., **Tong, J.**, Xu, A., Yang, J., Chen, Y., Cuker, A. and Pishko, A.M. (2023). Adding caplacizumab to standard of care in thrombotic thrombocytopenic purpura: A systematic review and meta-analysis. **Blood Advances**. 2023 May 23;7(10):2132-42.

30. Rao, S., Jing, N., Liu, X., Lorman, V., Maltenfort, M., Schuchard, J., Wu, Q., **Tong, J.**, Razzaghi, H., Mejias, A. and Lee, G.M. (2023). Clinical Subphenotypes of Multisystem Inflammatory Syndrome in Children: An EHR-based cohort study from the RECOVER program. **Scientifc Reports**. 13(1), p.21005.

31. Zhang, M., **Tong, J.**, Ma, W., Luo, C., Liu, H., Jiang, Y., Qin, L., Wang, X., Yuan, L., Zhang, J. and Peng, F. (2022). Predictors of Lung Adenocarcinoma With Leptomeningeal Metastases: A 2022 Target-Therapy Assisted molGPA Model for LM. **Frontiers in Oncology.** 2022 Jun 10;12:903851.

32. Qin, B.E., Cheng, C., Luo, C., Liu, J., Xu, X.F., **Tong, J.**, Yuan, D., Chen, Y., Peng, F.H. and Jiang, Y. (2022). The effect on brain volume in HIV-negative and non-transplant cryptococcal meningitis. **Medical Mycology**, 60(9), p.myac068.

33. Fan, R., Zhang, Y., Xu, Y., **Tong, J.,** Chen, Z., Gu, M., Fan, W., Chen, Y., Peng, F., Jiang, Y. (2021) Serum antinuclear antibodies associate with worse prognosis in AQP4-positive neuromyelitis optica spectrum disorder. **Brain and Behavior**, p.e01865.

34. Paydary, K., Banwell, E., **Tong, J.**, Chen, Y. and Cuker, A. (2020). Diagnostic accuracy of the PLASMIC score in patients with suspected thrombotic thrombocytopenic purpura: A systematic review and meta-analysis. **Transfusion**, 60(9), pp.2047-2057.

35. Duan, R., Chen Z., **Tong, J.**, Luo, C., Lyu, T., Tao, C., Maraganore, D., Bian, J. and Chen, Y.. (2020) Leverage real-world longitudinal data in large clinical research networks for Alzheimer's disease and related dementia. **AMIA Annu Symp Proc.**, Vol. 2020, p. 393.

36. Liang, J., Liu, J., Fan, R., Chen, Z., Chen, X., **Tong, J.**, Chen, Y., Peng, F. and Jiang, Y., (2019). Plasma Homocysteine Level Is Associated with the Expanded Disability Status Scale in Neuromyelitis Optica Spectrum Disorder. **Neuroimmunomodulation**, 26(5), pp.258-264.

37. Chiasakul, T., Jesus, E., **Tong, J.**, Chen, Y., Crowther, M., Garcia, D., Chai-Adisaksopha, C., Messe, S. and Cuker, A. (2019) Inherited Thrombophilia and the Risk of Arterial Ischemic Stroke: A Systematic Review and Meta-Analysis. **Journal of the American Heart Association**, 8(19), e012877.

Under revision

1. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., and Chen, Y. (2023) A new end-to-end data aggregation approach for comparing hospital performance without sharing patient-level data. **The Lancet Digital Health**. (Invited Revision). **Health Policy Statistics Section of American Statistical Association (ASA) Student Paper Award (2024+)**

2. **Tong, J.**, Qu, A., Carroll, R., Ning, Y., and Chen, Y. (2022) On the proportional likelihood ratio model for sparse data. **The Annals of Applied Statistics**. (Invited revision)

3. **Tong, J.**, Li, L., Reps, J.M., Lorman, V., Jing, N., Edmondson, M., Lorman, Lou, X., Jhaveri, R., Kelleher, K.J., Pajor, N.M., Forrest, C.B., Bian, J., Chu, H., and Chen, Y. (2023) Advancing Interpretable Regression Analysis for Binary Data: A Novel Distributed Algorithm Approach. **Statistics in Medicine**. (Invited revision).

4. **Tong, J.***, Hu, J.*, Hripcsak, G., Ning, Y., and Chen, Y. (2023) DisC^{2}o-HD: Distributed Causal inference with covariates shift for analyzing real-world high-dimensional data. **Journal of Machine Learning Research**. (Under revision)

5. Lake, E., Zhang, B., **Tong, J.,** Mpundu, G., Gross, K., Chen, Y. (2023) Practice Environment Scale of the Nursing Work Index: A Descriptive Statistics Meta-Analysis. **International Journal of Nursing Studies**. (Invited revision)

6. Duan, R., Piao, J., Marks-Anglin, A., **Tong, J.**, Lin, L., Chu, H., Ning, J., Chen, Y. (2024) Testing for publication bias in meta-analysis under Copas selection model. *arXiv preprint* arXiv:2007.00836. **Statistics in Medicine**. (Invited revision)

7. Wu, Q., Zhang, B., **Tong, J.**, Bailey, L.C., Bunnell, H.T., Chen, J., Chrischilles, E.A., Christakis, D.A., Downs, S.M., Hirabayashi, K. and Jhaveri, R., 2024. Real-world Effectiveness and Causal Mediation Study of BNT162b2 on Long COVID Risks in Children and Adolescents. **eClinicalMedicine**. (Invited revision)

8. Wu, Q., Pajor, N.M., **Tong, J.**, Lu, Y, Wolock, C, Asch, D, Forrest, C.B., and Chen, Y. (2023) Advancing learning health system via targeted causal inference of heterogeneous effect of COVID-19 exposure on healthcare utility outcomes - findings from RECOVER EHR study. **Cell Pattern**. (Invited revision)

9. Zhang, D., Zhang, B., Wu, Q., Zhou, T., **Tong, J.**, Lu, Y., Chen, J., Chisolm, D., Jhaveri, R., Rothman, R.L., Rao, S., Willliams, D.A., Hornig, M., Morris, J.S., Forrest, C.B., and Chen, Y. (2023) Does COVID-19 increase Racial/Ethnic Differences in Prevalence of Post-acute Sequelae of SARS-CoV-2 Infection (PASC) in Children and Adolescents? Findings from Difference-in-Differences Analyses using an EHR-Based Cohort from the RECOVER Program. **Nature Communications**. (Invited revision)

Under review

1. **Tong, J.**, Sun, Y., Hubbard, R.A., Saine, M.E., Xu, H., Zuo, X., Lin, L., Weng, C., Schumid, C., Kimmel, S.E., Umscheid, C.A., Cuker, A., and Chen, Y.(2023). Advancing timely and reliable evidence synthesis in the era of COVID-19: A novel method for including preprints in systematic reviews. **JAMA Network Open**. (Under review)

2. Liang, W.*, **Tong, J.,*** Chu, H., Rodondi, N., Baumgartner, C., Cappola, A. , Carroll, R., and Chen., Y. (2023) Meta-analysis of Reference Ranges. **Biometrics**. (Under review). **(co-first author)**

3. Yin, Z., **Tong, J.**, Chen, Y., and Tang, C (2023) Statistical Inference of M-estimations with Distributed Data. **Journal of the American Statistical Association**. (Under review)

4. Zhang, B. Liu, Z., **Tong, J.**, Xu, J., Lin, L., Cappelleri, J.C., Chu, H., and Chen, Y. (2023) Non-collapsible Odds Ratio Can Falsely Yield Small-Study Effects. **Research Synthesis Methods**. (Under review)

5. Wang, Y., Ye, Z., **Tong, J.**, Tang. C., Chen., Y. (2023) Analysis of Time to Event Data Under Two-Layer Censoring. **The Annals of Statistics**. (Under review)

6. Tara Trujillo, T., Duan, R., **Tong, J.**, Chen, Y., Stoddard, J. (2023) Testing Multiple Outcomes Across Mental Health Treatment Options: An Example Using Antidepressants. (Under review)

7. Chisolm, D., Webb, R., Salamon, K.S., Schuchard, J., Mendonca, E.A., Sills, M.R., Prahalad, P., Patel, P., **Tong, J.**, Zhang, D., Chen, Y., Musante, J., Bailey, C.L., Christakis, D., Forrest, C.B., Jhaveri, R., Pajor, N.M., Rao, S., Razzaghi, H., Thacker, D., Lee, G., and Mejias, Asun. (2023) Pediatric COVID-19 and community level social determinants of health: An EHR-based cohort study from the RECOVER program. **Pediatrics**. (Under review)

Oral Presentation

Invited talk

1. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., Chen, Y. A new end-to-end data aggregation approach for comparing hospital performance without sharing patient-level data. **2023 Joint Statistical Meetings (JSM)**, Toronto ON, Canada, August 2023. **Invited talk – Health Policy Statistics Section Student Paper Award**

Contributed talk

1. Lu, Y., **Tong, J.**, Habbard, R., Chen, Y. An Augmented Estimation Procedure for EHR-based Association Studies with Multiple Surrogate Outcomes. **2023 Joint Statistical Meetings (JSM)**, Toronto ON, Canada, August 2023.

2. Shen, Y., **Tong, J.**, Ning, Y., Chen, Y. An A Distributed Semi-parametric Model to Quantify Heterogeneous Treatment Effect: FED-SCI. **2023 Joint Statistical Meetings (JSM)**, Toronto ON, Canada, August 2023.

3. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., Chen, Y. A new end-to-end data aggregation approach for comparing hospital performance without sharing patient-level data. **2023 Eastern North American Region (ENAR)**, Nashville TN, March 2023

4. **Tong, J.**, Yang, N., Islam, N., Qu, A. and Chen, Y. On the proportional likelihood ratio model for sparse data. **2022 Joint Statistical Meetings (JSM)**, Washington DC, July 2022.

5. **Tong, J.**, Sun, Y., Hubbard, R.A., Saine, M.E., Xu, H., Zuo, X., Lin, L., Weng, C., Schumid, C., Kimmel, S.E., Umscheid, C.A., Cuker, A., and Chen, Y. Advancing timely and reliable evidence synthesis in the era of COVID-19: A novel method for including preprints in systematic reviews. **2022 Eastern North American Region (ENAR)**, virtual March 2022.

6. **Tong, J.**, Sun, Y., Hubbard, R.A., Saine, M.E., Xu, H., Zuo, X., Lin, L., Weng, C., Schumid, C., Kimmel, S.E., Umscheid, C.A., Cuker, A., and Chen, Y. Advancing timely and reliable

evidence synthesis in the era of COVID-19: A novel method for including preprints in systematic reviews. **The 34th New England Statistics Symposium (NESS)**, **invited session**, virtual October 2021.

7. **Tong, J.**, Sun, Y., Hubbard, R.A., Saine, M.E., Xu, H., Zuo, X., Lin, L., Weng, C., Schumid, C., Kimmel, S.E., Umscheid, C.A., Cuker, A., and Chen, Y. Advancing timely and reliable evidence synthesis in the era of COVID-19: A novel method for including preprints in systematic reviews. **2021 Joint Statistical Meetings (JSM)**, virtual August 2021.

8. **Tong, J.**, Luo, C., Islam, M.N., Sheils, N., Buresh, J., Edmondson, M., Merkel, P.A., Lautenbach, E., Duan, R. and Chen, Y. Distributed Binary Regression of Electronic Health Records Data Across Heterogeneous Clinical Sites. **2021 Eastern North American Region (ENAR)**, virtual March 2021.

9. **Tong, J.**, Chen, Z., Duan, R., Lo-Ciganic, W., Lyu, T., Tao, C., Merkel, P., Kranzler, H., Bian, J., Chen, Y. Identifying Clinical Risk Factors of Opioid Use Disorder using a Distributed Algorithm to Combine Real-World Data from a Large Clinical Data Research Network. **AMIA 2020 Annual Symposium**, virtual Nov 2020.

10. Duan, R., Chen Z., **Tong, J.**, Luo, C., Lyu, T., Tao, C., Maraganore, D., Bian, J. and Chen, Y. Leverage real-world longitudinal data in large clinical research networks for Alzheimer's disease and related dementia. **AMIA 2020 Annual Symposium**, virtual Nov 2020.

11. **Tong, J.**, Ren, B., Liu, Y., Moore, J., Xu, H. and Chen, Y. Xmeta-COVID19: A Comprehensive Web-based Toolbox for Meta-analysis on COVID19 Research. **2020 The Observational Health Data Sciences and Informatics (OHDSI)**, virtual Oct 2020.

12. **Tong, J.**, Luo, C., Duan, R., and Chen, Y. Distributed Learning From EHR across Multiple Heterogenous Clinical Sites. **2020 Joint Statistical Meetings (JSM)**, virtual July 2020.

13. **Tong, J.**, Huang, J., Chubak, J., Wang, X., Hubbard, R., and Chen, Y. An Augmented Estimation Procedure for EHR-based Association Studies. **Eastern North American Region (ENAR)**, virtual March 2020.

14. **Tong, J.***, Duan, R.*, Li, R., Scheuemie, M. J., Moore, J. H., and Chen, Y. Robust-ODAL: Learning from heterogeneous health systems without sharing patient-level data. **Pacific Symposium on Biocomputing**, Hawaii Jan 2020

15. **Tong, J.**, Li, R., Zhou, D., Duan, R., Moore, J., and Chen, Y. Improving the reproducibility of EHR-based association studies for pleiotropic effects by accounting for phenotyping errors. **Eastern North American Region (ENAR)**, Philadelphia Oct 2019.

16. **Tong, J.**, Huang, J., Du, J., Cai, Y., Tao, C. and Chen, Y. The Use of Likelihood Ratio Test to Identify Rare Adverse Events with Year-varying Reporting Rates for FLU4 Vaccine in VAERS. **AMIA 2018 Annual Symposium**, San Francisco Nov 2018.

Poster Presentation

17. **Tong, J.**, Luo, C., Sun, Y., Duan, R., Saine, M.E., Lin, L., Peng, Y., Lu, Y., Batra, A., Pan, A., Wang, O., Li, R., Anglin, A., Yang, Y., Zuo, X., Liu, Y., Bian, J., Kimmel, S.E., Hamilton, K., Cuker, A., Hubbard, R.A., Xu, H., and Chen, Y. Confidence Score: A Data-Driven Measure for Inclusive Systematic Reviews Considering Unpublished Preprints. **OHDSI 2023**, October 2023. (forthcoming)

18. Lu, Y., **Tong, J.**, Habbard, R., Chen, Y. An Augmented Estimation Procedure for EHR-based Association Studies with Multiple Surrogate Outcomes. **2023 Joint Statistical Meetings (JSM)**, Toronto ON, Canada, August 2023.

19. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., and Chen, Y. Secure federated hospital profiling using real-world data. **2023 DBEI & CCEB Research Day**, University of Pennsylvania, Philadelphia April 2023.

20. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., and Chen, Y. Secure federated hospital profiling using real-world data. **2023 ICSA**, University of Michigan, Ann Arbor June 2023.

21. **Tong, J.**, Reps, J., Luo, C., Schuemie, M., Yan, C., Ryan, P.B., Chu, H., Bian, J., Shenkman, E.A., Lu, Y., Ramirez-Anguita, J.M., Brand, M., Chen, Z., DuVall, S., Falconer, T., Fuentes, A.M., He, K., Li, J., Matheny, M.E., Mayer, M.A., Patel, B., Wang, D., Willilams, R.D., Simon, K., Seager, S., Yang, J., Zhou, Y., Morris, J.S., Wang, F., Stuart, E.A., Krumholz, H.M., Xu, H., Werner, R.M., Suchard, M.A., Lumley, T., Malin, B., Asch, D.A., and Chen, Y. Secure federated hospital profiling using real-world data. **OHDSI 2022**, October 2022.

22. **Tong, J.**, Shen, Y., Xu, A., Luo, C., He, X., Edmondson, M., Li, R., Zhang, D., Lu, Y., Chao, Y., Siegel, L., Sun, L., Shenkman, E.A., Morton, S.C., Malin, B.A., Bian, J., Asch, D.A., and Chen, Y. A federated learning algorithm to quantify racial disparities in kidney graft failure rates using US registry data from 29,468 patients across 149 transplant centers (2022). **OHDSI 2022**, October 2022.

23. **Tong, T.**, Li, L., Rao, S., Edmondson, M., Lorman, V., Razzaghi, H., Chu, H., Forrest, C.B., and Chen, Y. Advancing Interpretable Regression Analysis for Binary Data: A Novel Distributed Algorithm Approach. **OHDSI 2022**, October 2022.

24. Chen, Y., **Tong, J.**, Luo, C., Li, L., Lu, Y., Shu, H. PDA-OTA: Privacy-preserving Distributed Algorithms Over the Air, an OHDSI journey (2022). **OHDSI 2022**, October 2022.

25. **Tong, J.**, Yang, N., Islam, N., Qu, A. and Chen, Y. On the proportional likelihood ratio model for sparse data. **2022 Joint Statistical Meetings (JSM)**, July 2022.

26. **Tong, J.**, Duan, R., Liu, Y., Hong, C., Chi, K., and Chen, Y. A Comprehensive Toolbox for Advanced Meta-analysis. **2018 DBEI & CCEB Research Day**, University of Pennsylvania, Philadelphia April 2018.

Teaching Experience

1. **Teaching Assistant** August 2023
   JSM 2023 Short Course: Clinical evidence generation using electronic health records data

Toronto, ON, Canada
Instructors: Yong Chen and Xu Shi (Assistant Professor of Biostatistics at University of Michigan)

2. **Teaching Assistant**   August 2022
JSM 2022 Professional Development Continuing Education Course: Practical Solutions for Working with Electronic Health Records Data   Washington, DC
Instructors: Yong Chen and Rebecca A. Hubbard

3. **Teaching Assistant**   July 2022
27th Summer Institute in Statistical Genetics (SISG) – Regression methods: concepts and applications   Virtual
Instructors: Rebecca A. Hubbard and Xu Shi

4. **Teaching Assistant**   Nov 2021 - Dec 2021
BSTA 754: Advanced Survival Analysis   Philadelphia, PA
Instructor: Douglas E. Schaubel

5. **Teaching Assistant**   Sep 2021 - Nov 2021
BSTA 656: Longitudinal Data Analysis   Philadelphia, PA
Instructor: Ian J. Barnett

6. **Teaching Assistant**   Nov 2020 - Dec 2020
BSTA 660: Design of Observational Studies   Philadelphia, PA
Instructor: Rebecca A. Hubbard

7. **Teaching Assistant**   Sep 2020 - Nov 2020
BSTA 661: Design Of Interventional Studies   Philadelphia, PA
Instructor: Alisa J. Stephens-Shields

Professional Membership

1. **American Statistical Association**   2019 - Present

2. **Eastern North American Region (ENAR)**   2019 - Present

Computing Skill

- R, MATLAB, Python, JAVA, SQL

Hobbies & Personal Interests

- Running (Half Marathon Runner), Photography, Piano Playing, Music Enthusiast