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
  Thesis: Distributed algorithms and statistical inference for multi-site analyses: unfolding the complexity of heterogeneity in real-world data
  Advisor: Dr. Yong Chen

- **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

- **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

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** Statistics in Biosciences, 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

1. **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. (2024) Advancing Interpretable Regression Analysis for Binary Data: A Novel Distributed Algorithm Approach. **Statistics in Medicine**, 2024; 0:1–10.

2. Wang, X.*, **Tong, J.***, Peng, S., Chen, Y. and Ning, Y., (2024). Communication-Efficient Distributed Estimation of Causal Effects With High-Dimensional Data. **Stat**, 13(3), p.e70006.

3. **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.

4. 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. (2024) Real-World Effectiveness of BNT162b2 Against Infection and Severe Diseases in Children and Adolescents. **The Annals of Internal Medicine**. 2024 Jan 9.

5. 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**.

6. Wu Q, Pajor NM, Lu Y, Wolock CJ, **Tong J**, Lorman V, Johnson KB, Moore JH, Forrest CB, Asch DA, Chen Y. (2024) A latent transfer learning method for estimating hospital-specific post-acute healthcare demands following SARS-CoV-2 infection. **Patterns**. 2024 Oct 24.

7. **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.

8. **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.**

9. **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.

10. **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.

11. **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.

12. 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.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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)**

18. 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.**

19. 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

20. 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.

21. 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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

28. **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.

29. **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

30. Deshpande, S.R., Joseph, K.D., **Tong, J.**, Chen, Y., Pishko, A. and Cuker, A., 2024. Adeno-Associated Virus-based Gene Therapy for Hemophilia A and B: A Systematic Review and Meta-Analysis. **Blood Advances**, pp.bloodadvances-2024014111.

31. 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.

32. 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.

33. 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.

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

41. 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.

Oral Presentation

Invited talk

1. Statistical Innovations Using Real World Data for Health System Performance Assessment **Unlocking Insights from Electronic Health Record Data with Statistics and AI, Brown University**, Providence RI, USA, November 2024.

2. Statistical Innovations Using Real World Data for Health System Performance Assessment **Department of Biostatistics, University of Minnesota**, Minneapolis MN, USA, November 2024.

3. Unlocking Efficiency in Real-world Collaborative Studies: A Multi-site International Study with Collaborative One-shot Lossless Algorithm for Generalized Linear Mixed Model. **2024 OHDSI Global Symposium**, New Brunswick, NJ, USA, October 2024.

4. 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.**, Reps, J.M., Luo, C., Lu, Y., Li, L., Ramirez-Anguita, J.M., Brand, M.T., DuVall, S.L., Falconer, T., Mayer Fuentes, A., He, X., Matheny, M.E., Mayer, M.A., Patel, B.K., Simoni, K.R., Suchard, M.A., Tang, G., Viernes, B., Williams, R.D., Zandt, M.v., Wang, F., Bian, J., Zhou, J., Asch, D.A., and Chen, Y. Unlocking Efficiency in Real-world Collaborative Studies: A Multi-site International Study with Collaborative One-shot Lossless Algorithm for Generalized Linear Mixed Model. **OHDSI 2024**, October 2024.

18. **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.

19. 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.

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 DBEI & CCEB Research Day**, University of Pennsylvania, Philadelphia April 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. **2023 ICSA**, University of Michigan, Ann Arbor June 2023.

22. **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.

23. **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.

24. **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.

25. 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.

26. **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.

27. **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