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Chongliang (Jason) Luo

Contact Information

Address, Telephone and email:

- Office-
  - Phone Number: 314-362-7314
  - Mailing address: 319 West Suit, 600 S Taylor Ave, St Louis, MO 63110
- Email - chongliang@wustl.edu

Present Position

August, 2021 - Assistant Professor, Division of Public Health, Washington University School of Medicine in St. Louis

Education

- Undergraduate
  - 2006– 2010 B.S. Statistics, University of Science and Technology of China, Hefei, Anhui, China
- Graduate
  - 2010 – 2013 M.S. Statistics, University of Science and Technology of China, Hefei, Anhui, China
  - 2013 – 2017 Ph.D. Statistics, University of Connecticut, Storrs, CT, USA
    Dissertation: On integrative reduced-rank models and applications, advised by Professors Kun Chen and Dipak K. Dey

Academic Positions / Employment

2013 – 2017 Instructor & Teaching assistant, Department of Statistics, University of Connecticut, Storrs, CT
2017 – 2018 Postdoctoral Researcher, Center for Population Health, University of Connecticut Health Center, Farmington, CT
2018 – 2021 Postdoctoral Researcher, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania, supervised by Dr. Yong Chen

Honors and Awards

2008 Outstanding Student Scholarship, University of Science and Technology of China

2015 Student Paper Award, ICSA Applied Statistical Symposium

2016 Doctoral Dissertation Fellowship, The Graduate School, University of Connecticut

Editorial Responsibilities

Reviewer, Sankhya B (2018 – present)

Reviewer, Pharmacoepidemiology and Drug Safety (2020 - present)

Reviewer, Annals of Applied Statistics (2020 - present)

Reviewer, Statistica Sinica (2020 - present)

National Panels, Committees, Boards

2019 Conference organizer: section "Statistical Methodology for Healthcare Data Analysis" at the New England Statistical Symposium

Community Service Contributions

2017-2018 Data mining, Healthcare quality rating, Connecticut All Payers Claims Database (APCD), Healthscore CT Project, University of Connecticut Health Center

- **Professional Societies and Organizations**
    - 2016- American Statistical Association
    - 2017- Eastern North American Region, International Biometric Society
    - 2015- International Chinese Statistical Association

Bibliography

Original, peer reviewed articles in refereed journals

1. **Luo, C**., Feng, Q.*, Zhang, S. Several topological indices of random binary tree. Journal of University of Science and Technology of China. 2013 Jan 01;43:12:967-974. doi: 10.3969/j.issn.0253-2778.2013.12.001.

2. **Luo, C.**, Liu, J., Dey, D., Chen, K.* Canonical variate regression. *Biostatistics*, 2016 July;17(3):468-483. doi: 10.1093/biostatistics/kxw001. (R package CVR on CRAN).

3. **Luo, C**., Liang, J., Li, G., Wang, F., Zhang, C., Dey, D.K., Chen, K.* Leveraging mixed and incomplete outcomes via reduced-rank modeling. *Journal of Multivariate Analysis*, 2018 Sept;167(C):378-394. doi: 10.1016/j.jmva.2018.04.011.

4. Du, J., Cunningham, R. M., Xiang, Y., Li, F., Jia, Y., Boom, J. A., Myneni, S., Bian, J., **Luo, C**., Chen, Y., Tao, C.* Leveraging deep learning to understand health beliefs about the Human Papillomavirus Vaccine from social media. NPJ digital medicine, 2019 Apr 15; 2:27. doi: 10.1038/s41746-019-0102-4. PMID: 31304374; PMCID: PMC6550201.

5. Liu, L., Liang, J., Liu, Q., **Luo, C**., Liu, J., Fan, R., Chen Z., Chen Y., Peng F., Jiang, Y.* Elevated plasma homocysteine levels in anti-N-methyl-D-aspartate receptor encephalitis. *Frontiers in Neurology*, 2019 May 3;10:464. doi: 10.3389/fneur.2019.00464. PMID: 31130913; PMCID: PMC6509947.

6. 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.* Learning from local to global - an efficient distributed algorithm for modeling time to event data. *Journal of the American Medical Informatics Association*. 2020 Jul 1; 27(7):1028–1036. PMID: 32626900. PMCID: PMC7647322. (R package pda on github and CRAN)

7. Falcone, M., **Luo, C**., Chen Y., Birtwell D., Cheatle M., Duan R., Gabriel P.E., He L., Ko E.M., Lenz H.-J., Mirkovic N., Mowery D. L., Ochroch A. E., Paulson C. E., Schriver E., Schnoll R. A., Bekelman J. E., Lerman C.* Risk of persistent opioid use following major surgery in matched samples of patients with and without cancer. *Cancer Epidemiology Biomarkers and Prevention*. 2020 Nov 01; 29(11):2126-2133. doi: 10.1158/1055-9965. Epub 2020 Aug 28. PMID: 32859580.

8. Du, J., **Luo, C**., Shegog, R., Bian J., Cunningham, R., Boom, J., Poland, G., Chen, Y. Tao, C.* Use of Deep Learning to Analyze Social Media Discussions About the Human Papillomavirus Vaccine. *JAMA Netw Open.* 2020 Nov 13;3(11):e2022025. doi:10.1001/jamanetworkopen.2020.22025.

9. Liu, J., **Luo, C**., Li, M., Wang, Y., Xu, X., Yang, Lu., Qin, B., Chen, Y., Jiang, Y.*, Peng, F. Predictors of post-infectious inflammatory response syndrome in HIV-negative immuno- competent cryptococcal meningitis. *Journal of Neurology, Neurosurgery, and Psychiatry*. 2020 Dec 04. doi: 10.1136/jnnp-2020-324921.

10. **Luo, C.**, Jiang, Y., Du, J., Tong, J., Huang, J., Lo Re, V., Ellenberg, S.S., Poland, G.A., Tao, C., Chen, Y.* Prediction of post-vaccination Guillain-Barré syndrome using data from a passive surveillance system. 2021 Feb 02. *Pharmacoepidemiology and Drug Safety*. doi: 10.1002/pds.5196.

11. Marks-Anglin, A., **Luo, C.**, Piao, J., Gibbons, M., Schmid, C., Ning, J., Chen, Y.* EM-BRACE: an EM-based bias reduction approach through copas-model estimation for

quantifying the evidence of selective publishing in network meta-analysis. 2021 Feb 9. Bi*ometrics*. doi: 10.1111/biom.13441. PMID: 33559881.

12. Edmondson, M.J., **Luo, C.**, Duan, R., Maltenfort, M., Chen, Z., Locke, K., Shults, J., Bian, J., Ryan, P.B., Forrest, C.B. and Chen, Y., 2021 Oct 4. An efficient and accurate distributed learning algorithm for modeling multi-site zero-inflated count outcomes. Scientific Reports, 11(1), pp.1-17. doi: 10.1038/s41598-021-99078-2. PMID: 34608222.

13. Chen, A.A., **Luo, C.**, Chen, Y., Shinohara, R.T., Shou, H. and Alzheimer's Disease Neuroimaging Initiative, 2022 Mar. Privacy-preserving harmonization via distributed ComBat. *NeuroImage*, *248*, p.118822. doi: 10.1016/j.neuroimage.2021.118822. PMID: 34958950.

Reviews, Chapters and Editorials, including invited publications

1. **Luo, C.**, Dey, D. and Chen, K.* Partially supervised sparse factor regression model for multi-class classification. In Lin, J., Wang, B., Hu, X., Chen, K., & Liu, R. (Eds.). *Statistical Applications from Clinical Trials and Personalized Medicine to Finance and Business Analytics - Selected Papers from the 2015 ICSA/Graybill Applied Statistical Symposium*. Springer;2016. p. 323-335.

Non-refereed Publications

1. Du, J., **Luo, C**., Wei, Q., Chen, Y., Tao, C.* Exploring difference in public perceptions on HPV vaccine between gender groups from twitter using deep learning. *arXiv*. 2019 Jul 06:1907.03167.

2. **Luo, C.**, Marks-Anglin, A., Duan, R., Lin, L., Hong, C., Chu, H., Chen, Y.* (2020) Accounting for small-study effects using a bivariate trim and fill meta-analysis procedure. *medRxiv*, 2020 Jul 27;20161562; doi: https://doi.org/10.1101/2020.07.27.20161562. (R package xmeta on CRAN)

3. Duan, R., Chen, Z., Tong, J., **Luo, C**., Lyu, T., Tao, C., Maraganore, D., Bian, J., Chen, Y.* Leverage real-world longitudinal data in large clinical research networks for alzheimer's disease and related dementia (ADRD). *medRxiv*, 2020 Aug 03;20167619; doi: https://doi.org/10.1101/2020.08.03.20167619.

4. **Luo, C.**, Islam, M.N., Sheils, N., Reps, J., Buresh, J., Duan, R., Tong, J., Edmondson, M., Schumie, M.J., Chen, Y.* Lossless distributed linear mixed model with application to integration of heterogeneous healthcare data. *medRxiv*. 2020 Nov 16;20230730; doi: https://doi.org/10.1101/2020.11.16.20230730.

5. Tong, J., **Luo, C**., Islam, M.N., Sheils, N., Buresh, J., Edmondson, M., Merkel, P.A., Lautenbach, E., Duan, R., Chen, Y.* An efficient distributed algorithm with application to COVID-19 data from heterogeneous clinical sites. *medRxiv*, 2020 Nov 17;20220681;

doi: https://doi.org/10.1101/2020.11. 17.20220681.

Audiovisual/Media

Software

1. CVR: R package on Canonical Variate Regression (on CRAN);
2. xmeta: R package on statistical methods of meta-analysis (on CRAN);
3. pda: R package on privacy-preserving distributed algorithms (on github and CRAN).