

Lingbo Tong

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| CONTACT INFORMATION | University of Notre Dame 430 Corbett Family Hall Notre Dame, IN 46556 | ltong2@nd.edu lingbo-t.github.io |
| RESEARCH INTERESTS | Natural Language Processing, Deep Learning, Structural Equation Modeling, Longitudinal Data Analysis, Computational Social Science. | |
| EDUCATION | University of Notre Dame , Notre Dame, IN, USA Joint Ph.D. in Quantitative Psychology and Computer Science and Engineering 2025 <i>Advisors: Prof. Zhiyong (Johnny) Zhang and Prof. Meng Jiang</i> Sichuan University , Chengdu, China B.Eng. in Computer Science and Technology 2020 | |
| PUBLICATIONS | <i>Under Review / In Preparation</i> Tong, L. , & Zhang, Z. (R&R). Neural Network Analysis of Psychological Data: A Step-by-Step Guide. Submitted to <i>Multivariate Behavioral Research</i> . [preprint] Tong, L. , & Zhang, Z. (preprint). TextSEM: Structural Equation Modeling for Text Data. Submitted to <i>Structural Equation Modeling: A Multidisciplinary Journal</i> . [R package] Tong, L. (in prep). Nonlinear Structural Equation Modeling with Text Data. <i>Dissertation</i> . Tong, L. , Krush A. & Zhang, Z. (in prep). Investigating Gender Bias in Teaching Evaluation via Large Language Models. Tong, L. , Turpin M., Crockett N., Zhang Z., & Jiang M. (in prep). Leveraging Large Language Models for Suicide Intervention in Online Crisis Counseling. <i>Published / In Press</i> Wan R.*, Tong, L.* (co-first author), Kneareem T., Li T., Huang K., & Wu Q. Hashtag Re-appropriation For Audience Control on Recommendation-driven Social Media Xiaohongshu. <i>The ACM Conference on Human Factors in Computing Systems (CHI)</i> . Honorable Mention for Best Paper (Top 5%). [paper] Tong, L. , Qu, W., & Zhang, Z. (2024). Comparison of the K1 Rule, Parallel Analysis, and the Bass-Ackward Method on Identifying the Number of Factors in Factor Analysis. <i>Fudan Journal of the Humanities and Social Sciences</i> , 1-28. [paper] Lu, Y., Tong, L. , & Cheng, Y. (2024). Advanced Knowledge Tracing for Intelligent Tutoring Systems: Incorporating Process Data and Curricula Information via an Attention-Based Framework for Accuracy and Interpretability. <i>Journal of Educational Data Mining</i> . [paper] Tong, L. , Liu, Q., Yu, W., Yu, M., Zhang, Z., & Jiang, M. (2023). Improving mental health support response generation with event-based knowledge graph. <i>Workshop on Knowledge-Augmented Methods for NLP (KnowledgeNLP) at AAAI Conference on Artificial Intelligence (AAAI)</i> . [paper] Jiang M., Dang H., & Tong L. (2023). A Quantitative Review on Language Model Efficiency Research. Large Language Model. <i>Symposium at International Joint Conference on Artificial Intelligence (IJCAI)</i> . [paper] Wan, R., & Tong, L. (2023). Digital and Historical Exclusivity in Feminine Linguistics: From Nüshu | |

to Xiaohongshu. *WiNLP workshop at Conference on Empirical Methods in Natural Language Processing (EMNLP)*. [[paper](#)]

Yu, M., Yu, W., **Tong, L.**, & Jiang, M. (2022). Scientific Comparative Argument Generation. *Document Intelligence Workshop (DI) at ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*. [[paper](#)]

Kuebler, J., **Tong, L.**, & Jiang, M. (2021). Multi-Round Parsing-Based Multiword Rules for Scientific Knowledge Extraction. *IEEE International Conference on Big Knowledge (ICBK)* (pp. 331-338). IEEE. [[paper](#)]

Chen, H., Jin S., Lin W., Zhu Z., **Tong L.**, Liu Y., ... & Sun M. (2021). Quantitative analysis on the Communication of COVID-19 Related Social Media Rumors. (In Chinese). *Journal of Computer Research and Development*, 58(7), 1366-1384. [[paper](#)]

PRESENTATIONS AND POSTERS

Tong, L. & Jiang, M. (2024). Large Language Models in Mental Health Support. Invited talk for *Summer Research Experience for Teacher's (RET) Program*, 19 June, Notre Dame, USA.

Tong, L., Zhang, Z., Jiang M., & Li J. (2023). Permutation test of Importance-Weighted Autoencoder for Factor Analysis. *Symposium at Lucy Family Institute for Data & Society*, 7 September, Notre Dame, USA.

Tong, L. & Zhang, Z. (2023). Evaluation of the Bass-Ackward Method for Identifying the Number of Factors. *Annual Meeting of the International Society for Data Science and Analytics*, 4–6 July, Shanghai, China.

Tong, L., Liu, Q., Yu, W., Yu, M., Zhang, Z., & Jiang, M. (2023). MHKG: Improving mental health support response generation with event-based knowledge graph. *KnowledgeNLP at AAAI*, 7–14 February, Washington DC, USA.

Zhang, J., Chen, H., & **Tong, L.** (2022). Structured Gender Bias: How is Gender Cognition Changed and Affected by Digital Communities in China? *Annual Conference of International Association for Media and Communication Research Conference (IAMCR)*, 11–15 July, Beijing, China (online).

Tong, L., Zhang, Z., Jiang M., & Li J. (2022). Estimating Structural Equation Models with Neural Networks. *Symposium at Lucy Family Institute for Data & Society*, 28 September, Notre Dame, USA.

SOFTWARE DEVELOPMENT

Tong L., & Zhang, Z. (2024). TextSEM: An R Package for Structural Equation Modeling with Text Data. [[code](#)]

Tong, L., Nguyen, B., Dang H., Hoq, A., & Taki S. BLASH: An LLM-based Chrome Plugin for Peer-to-Peer Mental Health Support in Online Forums. [[video demo](#)] [[code](#)]

Tong L., & Zhang, Z. (2022). An Online Tool for Bass-Ackward Factor Analysis. [[online app](#)]

Xu, J., **Tong L.**, & Zhang, Z. (2020). Webnetvis: An Online Tool for Network Visualization. [[online app](#)]

HONORS AND AWARDS

Center for Research Computing (CRC) Graduate Award (\$1,000) 2025
University of Notre Dame

ISLA Graduate Student Research Award (\$4,000) 2024
University of Notre Dame

First place, 2023 EDM Cup 2023

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| | International Educational Data Mining Society (IEDMS) | |
| | Summer Institute of Computational Social Science (SICSS) Scholarship NYU Shanghai Center for Applied Social and Economic Research (CASER) | 2023 |
| | Most Innovative Project Award Google AI ML Winter Camp, Beijing | 2019 |
| | First Prize Academic Scholarship Sichuan University | 2019 |
| | Outstanding Undergraduate Student Award Sichuan University | 2017, 2018, 2019 |
| | National Innovation Training Grant for Undergraduates Sichuan University | 2017, 2018 |
| TEACHING EXPERIENCE | Co-Instructor , Grad Seminar: Quantitative Study (PSY 63199) Department of Psychology, University of Notre Dame | Spring 2025, Fall 2024 |
| | Teaching Assistant/Lab Instructor , Methods for Behavioral Sciences (PSY 30160) Department of Psychology, University of Notre Dame | Fall 2023, Spring 2022 |
| MENTORED STUDENTS | • Noah Crockett, ND undergraduate student in psychology | 2024 |
| | • Anna Krush, ND master's student in applied and computational mathematics and statistics | 2023 – 2024 |
| | • Yue Wan, ND exchange undergraduate student in data science | 2023 – 2024 |
| | • Ishita Masetty, Penn High School student | 2022 |
| | • Qi Liu, ND visiting undergraduate student in computer science | 2022 |
| | • Longqing Chen, ND undergraduate student in computer science | 2021 |
| PROFESSIONAL LEADERSHIP & SERVICE | Workshop Co-Organizer: | |
| | • The Second Workshop on Knowledge Augmented Methods for NLP at ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 6–10 August, 2023, Long Beach, CA, USA. [website] | |
| | • Workshops at the Annual Meeting of the International Society for Data Science and Analytics, 21–24 July, 2024, Vienna, Austria. [website] | |
| | Manuscript Reviewer: | |
| | • Journal of Behavioral Data Science (JBDS) | |
| | • Journal of Chinese Political Science (JCPS) | |
| | • Annual Meeting of the Association for Computational Linguistics (ACL) | |
| | • Conference on Empirical Methods in Natural Language Processing (EMNLP) | |
| | • China National Conference on Computational Linguistics (CCL) | |
| | University Service: | |
| | • Departmental DEI Committee Representative | 2023 – 2024 |
| | • Mentor for STEMentorship Program, Association with Women in Science | 2023 – 2024 |
| | • Departmental Faculty Meeting Representative | 2022 – 2023 |
| TECHNICAL SKILLS | • Programming Languages: Python, R, JavaScript, SQL, HTML and others | |
| | • Quantitative Methods: Structural Equation Modeling, Multivariate Analysis, Longitudinal Data Analysis, Bayesian Statistics, Item Response Theory | |
| | • Machine Learning Topics: Explainable Machine Learning, Generative models, Dialog System, Empathetic AI, Human-AI Collaboration | |
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REFERENCES

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