

Lingbo Tong

CONTACT INFORMATION	University of Notre Dame 430 Corbett Family Hall Notre Dame, IN 46556	ltong2@nd.edu lingbo-t.github.io
EDUCATION	University of Notre Dame , Notre Dame, IN, USA Joint Ph.D. in Quantitative Psychology and Computer Science and Engineering M.S. in Computer Science and Engineering	Expected 2025 2024
	Sichuan University , Chengdu, China B.Eng. in Computer Science and Technology	2020
RESEARCH EXPERIENCE	Lab for Big Data Methodology , University of Notre Dame <i>Graduate Research Assistant, Advisor: Prof. Zhiyong Johnny Zhang</i> Research Topic: Integrating machine learning with structural equation modeling	Aug 2020 – present
	DM2 Lab , University of Notre Dame <i>Graduate Research Assistant, Advisor: Prof. Meng Jiang</i> Research Topic: Large Language Models for mental health support	Aug 2020 – present
	Natural Language Processing Lab (THUNLP) , Tsinghua University <i>Research Assistant, Advisors: Prof. Zhiyuan Liu & Prof. Huimin Chen</i> Research Topic: Social media sentiment analysis and bias detection	Sep 2020 – Jan 2021
PUBLICATIONS	<i>Journal & Conference Articles</i> Tong, L. , & Zhang, Z. (drafted). TextSEM: Structural Equation Modeling for Text Data. <i>Structural Equation Modeling: A Multidisciplinary Journal</i> . [preprint] Tong, L. , & Zhang, Z. (under review). Neural Network Analysis of Psychological Data: A Step-by-Step Guide. <i>Multivariate Behavioral Research</i> . [preprint] Lu, Y., Tong, L. , & Cheng, Y. (in press). Advanced Knowledge Tracing for Intelligent Tutoring Systems: Incorporating Process Data and Curricula Information via an Attention-Based Framework. <i>Journal of Educational Data Mining</i> . [preprint] 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. [DOI] Zhang, J., Chen, H., & Tong, L. (2022). Structured Gender Bias: How is Gender Cognition Changed and Affected by Digital Communities in China? In <i>2022 Annual Conference of International Association for Media and Communication Research Conference (IAMCR)</i> . Kuebler, J., Tong, L. , & Jiang, M. (2021). Multi-round parsing-based multiword rules for scientific knowledge extraction. In <i>2021 IEEE International Conference on Big Knowledge (ICBK)</i> (pp. 331-338). IEEE. [DOI] 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. <i>Journal of Computer Research and Development</i> , 58(7), 1366-1384. [DOI]	

Workshop Papers & Presentations

Tong, L. & Jiang, M. (2024). Large Language Models in Mental Health Support. *Summer Research Experience for Teacher's program*, 19 June, Notre Dame, USA. [slides]

Tong, L., Liu, Q., Yu, W., Yu, M., Zhang, Z., & Jiang, M. (2023). Improving mental health support response generation with event-based knowledge graph. *Workshop on Knowledge-Augmented Methods for NLP (KnowledgeNLP) at AAAI Conference on Artificial Intelligence (AAAI)*. [paper] [slides]

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]

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. [poster]

Jiang M., Dang H., **Tong L.** (2023). A Quantitative Review on Language Model Efficiency Research. Large Language Model. *Symposium at International Joint Conference on Artificial Intelligence (IJCAI)*. [paper]

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*. [slides]

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]

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. [poster]

Software Development

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

Tong L., & Zhang, Z. (2022). An Online Tool for Bass-Ackward Factor Analysis. Available at <https://websem.psychstat.org/apps/bass/>.

Xu, J., **Tong L.**, & Zhang, Z. (2020). Webnetvis: An Online Tool for Network Visualization. Available at <https://webnetvis.psychstat.org/>.

HONORS AND AWARDS

ISLA Graduate Student Research Award (\$4,000) University of Notre Dame	2024
First place, 2023 EDM Cup International Educational Data Mining Society (IEDMS)	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	Associate Instructor , Grad Seminar: Quantitative Study (PSY 63199) Department of Psychology, University of Notre Dame	Fall 2024
	Teaching Assistant , Methods for Behavioral Sciences (PSY 30160) Department of Psychology, University of Notre Dame	Fall 2023, Spring 2022
MENTORED STUDENTS	<ul style="list-style-type: none"> Noah Crockett, ND undergraduate in psychology Yue Wan, ND exchange undergraduate student Anna Krush, ND undergraduate student in psychology Qi Liu, ND visiting undergraduate student in computer science 	2024 2023 – 2024 2023 – 2024 2022
PROFESSIONAL LEADERSHIP & SERVICE	<p>Workshop Co-organized:</p> <ul style="list-style-type: none"> 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, July 21–24, 2024, Vienna, Austria. [website] <p>Manuscript Reviewer:</p> <ul style="list-style-type: none"> 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) <p>University Service:</p> <ul style="list-style-type: none"> Departmental DEI Committee Representative Mentor for STEMentorship Program, Association with Women in Science Departmental Faculty Meeting Representative 	2023 – 2024 2023 – 2024 2022 – 2023
TECHNICAL SKILLS	<ul style="list-style-type: none"> Programming Languages: Python, R, JavaScript, SQL, HTML and others Quantitative Methods: Structural Equation Modeling, Multivariate Analysis, Bayesian Statistics, Item Response Theory Machine Learning Topics: Natural Language Processing, Deep Learning, Human-AI Collaborative System 	