LIAO Lizi

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Education

PhD, National University of Singapore, Singapore, 2019

Bachelor of Engineering, Beijing Institute of Technology, China, 2011

Academic Appointments

Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Jan 2022 - Present

RESEARCH

Research Interests

My research explores two questions: What are the underlying principles of humans understanding conversation context as well as making proper responses, and how we can implement them on machine learning models? Research on this topic has to necessarily be at the intersection of Machine Learning, Natural Language Processing and Multimedia. In my lab, we are specifically interested in task-oriented dialogues, proactive conversational agents, and multimodal conversational search and recomendation as the application target.

Research and Project Areas

My research can be summarized as the following aspects:

multimodal dialogue systems: belief state tracking, response generation, policy learning etc.
recommendation: neural collaborative filtering, conversational recommendation etc.
multimedia analysis: cross-modal retrieval, fashion compatibility modeling, multimodal chatbot etc.

Publications

Journal Articles [Refereed]

Towards multimodal emotional support conversation systems, by CHU, Yuqi; LIAO, Lizi; ZHOU, Zhiyuan;

NGO, Chong-Wah; HONG, Richang. (2025). *IEEE Transactions on Multimedia, 27* 8276-8287. https://doi.org/10.1109/TMM.2025.3604951 (Published)

Proactive conversational AI: A comprehensive survey of advancements and opportunities, by DENG, Yang; LIAO, Lizi; LEI, Wenqiang; YANG, Grace Hui; LAM, Wai; CHUA, Tat-seng. (2025). *ACM Transactions on Information Systems, 43* (3), 1-45. https://doi.org/10.1145/3715097 (Published)

A survey of multilingual large language models, by QIN, Libo; CHEN, Qiguang; ZHOU, Yuhang; CHEN, Zhi; LI, Yinghui; LIAO, Lizi; LI, Min; CHE, Wanxiang; YU, Philip S.. (2025). *Patterns, 6* (1), 1-30. https://doi.org/10.1016/j.patter.2024.101118 (Published)

Revisiting conversation discourse for dialogue disentanglement, by LI, Bobo; FEI, Hao; LI, Fei; WU, Shengqiong; LIAO, Lizi; WEI, Yinwei; CHUA, Tat-seng; JI, Donghong;. (2024). *ACM Transactions on Information Systems, 43* (1), 1-34. https://doi.org/10.1145/3698191 (Published)

Active discovering new slots for task-oriented conversation, by WU, Yuxia; DAI, Tianhao; ZHENG, Zhedong; LIAO, Lizi. (2024). *IEEE/ACM Transactions on Audio, Speech, and Language Processing, 32* 1-11. https://doi.org/10.1109/TASLP.2024.3374060 (Advance Online)

A Patience-Aware Recommendation Scheme for Shared Accounts on Mobile Devices, by MAO, Kaili; NIU, Jianwei; LIU, Xuefeng; TANG, Shaojie; LIAO, Lizi; CHUA, Tat-Seng. (2022). *IEEE Transactions on Knowledge and Data Engineering, 34* (12), 5571-5585. https://doi.org/10.1109/TKDE.2021.3069002 (Published)

Leveraging Multiple Relations for Fashion Trend Forecasting Based on Social Media, by DING, Yujuan; MA, Yunshan; LIAO, Lizi; WONG, Wai Keung; CHUA, Tat-Seng. (2022). *IEEE Transactions on Multimedia, 24* 2287-2299. https://doi.org/10.1109/TMM.2021.3078907 (Published)

Topic-Guided Conversational Recommender in Multiple Domains, by LIAO, Lizi; TAKANOBU, Ryuichi; MA, Yunshan; YANG, Xun; HUANG, Minlie; CHUA, Tat-Seng. (2022). *IEEE Transactions on Knowledge and Data Engineering, 34* (5), 2485-2496. https://doi.org/10.1109/TKDE.2020.3008563 (Published)

State Graph Reasoning for Multimodal Conversational Recommendation, by WU, Yuxia; LIAO, Lizi; ZHANG, Gangyi; LEI, Wenqiang; ZHAO, Guoshuai; QIAN, Xueming; CHUA, Tat-Seng. (2023). *IEEE Transactions on Multimedia, 25* 3113-3124. https://doi.org/10.1109/TMM.2022.3155900 (Published)

Multi-Relation Extraction via A Global-Local Graph Convolutional Network, by CHENG, Harry; LIAO, Lizi; HU, Linmei; NIE, Liqiang. (2022). *IEEE Transactions on Big Data, 8* (6), 1716-1728. (Published)

Dialogue State Tracking with Incremental Reasoning, by LIAO, Lizi; LONG, Le Hong; MA, Yunshan; LEI, Wenqiang; CHUA, Tat-Seng. (2021). *Transactions of the Association for Computational Linguistics, 9* 557-569. http://doi.org/10.1162/tacl_a_00384 (Published)

Attributed Social Network Embedding, by LIAO, Lizi; HE, Xiangnan; ZHANG, Hanwang; CHUA, Tat-Seng. (2018). *IEEE Transactions on Knowledge and Data Engineering, 30* (12), 2257-2270. https://doi.org/10.1109/TKDE.2018.2819980 (Published)

Conference Proceedings

Reinforce trustworthiness in multimodal emotional support system, by LE, Huy M.; NGUYEN, Dat Tien; VO, Ngan T. T.; NGUYEN, Tuan D. Q.; BINH, Nguyen Le; NGUYEN, Duy Minh Ho; SONNTAG, Daniel; LIAO, Lizi; NGUYEN, Binh T.. (2026.0). *Proceedings of the 40th Annual AAAI Conference on Artificial Intelligence (AAAI26), Singapore, January 20-27,* (pp. 1-18) Singapore: https://doi.org/10.48550/arXiv.2511.10011 (Accepted)

Sheetpedia: A 300K-spreadsheet corpus for spreadsheet intelligence and LLM fine-tuning, by TIAN, Zailong; HAN, Zhuoheng; WANG, Houfeng; LIAO, Lizi. (2025.0). *Proceedings of the 39th Conference on Neural Information Processing Systems (NeurIPS 2025), San Diego, CA, December 2-7,* (pp. 1-31) USA: https://openreview.net/forum?id=4vLYwlA3X5 (Published)

DistillCaps: Enhancing audio-language alignment in captioning via retrieval-augmented knowledge distillation, by PHAM, Thinh; DIEP, Nghiem; LIAO, Lizi; NGUYEN, Binh. (2025.0). *CIKM '25: Proceedings of the 34th ACM International Conference on Information and Knowledge Management, Seoul, Korea, November 10-14,* (pp. 2346-2356) New York : ACM. https://doi.org/10.1145/3746252.3761269 (Published)

Context-aware hierarchical taxonomy generation for scientific papers via LLM-guided multi-aspect clustering, by ZHU, Kun; LIAO, Lizi; GU, Yuxuan; HUANG, Lei; FENG, Xiaocheng; QIN, Bing. (2025.0).

Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing, Suzhou, China (EMNLP2025), November 4-9, (pp. 15616-15634) China: ACL. https://doi.org/10.18653/v1/2025.emnlp-main.788 (Published)

One planner to guide them all! Learning adaptive conversational planners for goal-oriented dialogues, by DAO, Huy; LIAO, Lizi. (2025.0). *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing, Suzhou, China (EMNLP2025), November 4-9,* (pp. 22092-22116) China: ACL. https://doi.org/10.18653/v1/2025.emnlp-main.1123 (Published)

IntentionFrame: A semi-structured, multi-aspect framework for fine-grained conversational intention understanding, by TIAN, Zailong; HAN, Zhuoheng; WANG, Houfeng; LIAO, Lizi. (2025.0). *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing, Suzhou, China (EMNLP2025), November 4-9,* (pp. 28108-28125) China: ACL. https://doi.org/10.18653/v1/2025.emnlp-main.1427 (Published)

Boosting chart-to-code generation in MLLM via dual preference-guided refinement, by ZHANG, Zhihan; CAO, Yixin; LIAO, Lizi. (2025.0). *MM '25: Proceedings of the 33rd ACM International Conference on Multimedia, Dublin, Ireland, October 27-31,* (pp. 11032-11041) New York : ACM. https://doi.org/10.1145/3746027.3755596 (Published)

MeMAD: Structured memory of debates for enhanced multi-agent reasoning, by LING, Shuai; LIAO, Lizi; JIANG, Dongmei; GUAN, Weili. (2025.0). *Conference on Language Modeling (COLM 2025), Montreal, Canada, October 7-10,* (pp. 1-18) USA: https://openreview.net/forum?id=zLbmsdyTiN#discussion (Published)

R2DQG: A quality meets diversity framework for question generation over knowledge bases, by REN, Yimeng; YU, Yanhua; LIAO, Lizi; SHANG, Yuhu; LU, Kangkang; YAN, Mingliang. (2025.0). *IJCAI '25: Proceedings of the Thirty-Fourth International Joint Conference on Artificial Intelligence, Montreal, Canada, August 16-22,* (pp. 8231-8240) New York : ACM. https://doi.org/10.24963/ijcai.2025/915 (Published)

Colloquial Singaporean English style transfer with fine-grained explainable control, by LIANG, Jinggui; VO, Dung; XIAN, Yap Hong; CHIEU, Hai Leong; CHAI, Kian Ming A.; JIANG, Jing; LIAO, Lizi. (2025.0). *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL2025), Vienna, Austria, July 27 - August 1,* (pp. 26962-26983) Austria: ACL. (Published)

MeMoTune: A measure and moment-driven fine-tuning framework for quantized large language models, by ZHANG, Yun; GENG, Xue; LIAO, Lizi; SUN, Jintong; YU, Minghe; YU, Ge. (2025.0). *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL2025), Vienna, Austria, July 27 - August 1,* (pp. 4036-4050) Austria: ACL. https://doi.org/10.18653/v1/2025.findings-acl.208 (Published)

XFinBench: Benchmarking LLMs in complex financial problem solving and reasoning, by ZHANG, Zhihan; CAO, Yixin; LIAO, Lizi. (2025.0). *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL2025), Vienna, Austria, July 27 - August 1,* (pp. 8715-8758) Austria: ACL. https://doi.org/10.18653/v1/2025.findings-acl.457 (Published)

Debate, reflect, and distill: Multi-agent feedback with tree-structured preference optimization for efficient language model enhancement, by ZHOU, Xiaofeng; HUANG, Heyan; LIAO, Lizi. (2025.0). *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL2025), Vienna, Austria, July 27 - August 1,* (pp. 9122-9137) Austria: ACL. https://doi.org/10.18653/v1/2025.findings-acl.475 (Published)

Breaking the reasoning barrier: A survey on LLM complex reasoning through the lens of self-evolution, by HE, Tao; LI, Hao; CHEN, Jingchang; LIU, Runxuan; CAO, Yixin; LIAO, Lizi; ZHENG, Zihao; CHU, Zheng; LIANG, Jiafeng; LIU, Ming; QIN, Bing. (2025.0). *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL2025), Vienna, Austria, July 27 - August 1,* (pp. 7377-7417) Austria: ACL. https://doi.org/10.18653/v1/2025.findings-acl.386 (Published)

Simulating before planning: Constructing intrinsic user world model for user-tailored dialogue policy planning, by HE, Tao; LIAO, Lizi; LIU, Ming; QIN, Bing. (2025.0). *SIGIR '25: Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval, Padua, Italy, July 13-18,* (pp. 645-655) New York : ACM. https://doi.org/10.1145/3726302.3730084 (Published)

Retrieval augmented generation for dynamic graph modeling, by WU, Yuxia; LIAO, Lizi; FANG, Yuan. (2025.0). *Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR 2025, ,* (pp. 1434-1443) New York : ACM. https://doi.org/10.1145/3726302.3729958 (Published)

Towards multimodal empathetic response generation: A rich text-speech-vision avatar-based benchmark, by ZHANG, Han; MENG, Zixiang; LUO, Meng; HAN, Hong; LIAO, Lizi; CAMBRIA, Erik; FEI, Hao. (2025.0). *WWW '25: Proceedings of the ACM on Web Conference 2025, Sydney, Australia, 2025 April 28 - May 2,* (pp. 2872-2881) New York : ACM. https://doi.org/10.1145/3696410.3714739 (Published)

Simulation-free hierarchical latent policy planning for proactive dialogues, by HE, Tao; LIAO, Lizi; CAO, Yixin; LIU, Yuanxing; SUN, Yiheng; CHEN, Zerui; LIU, Ming; QIN, Bing. (2025.0). *AAAI'25/IAAI'25/EAAI'25: Proceedings of the Thirty-Ninth AAAI Conference on Artificial Intelligence and Thirty-Seventh Conference on Innovative Applications of Artificial Intelligence and Fifteenth Symposium on Educational Advances in Artificial Intelligence, Philadelphia, Pennsylvania, February 25 - March 4,* (pp. 24032-24040) New York : ACM. https://doi.org/10.1609/aaai.v39i22.34577 (Published)

Thoughts to target: Enhance planning for target-driven conversation, by ZHENG, Zhonghua; LIAO, Lizi; DENG, Yang; LIM, Ee-Peng; HUANG, Minlie; NIE, Liqiang. (2024.0). *Proceedings of the Conference on Empirical Methods in Natural Language Processing, 19th EMNLP 2024: Miami, FL, November 12-16,* (pp. 21108-21124) Stroudsburg, PA: ACL. https://doi.org/10.18653/v1/2024.emnlp-main.1175 (Published)

Balancing visual context understanding in dialogue for image retrieval, by WEI, Zhaohui; LIAO, Lizi; DU, Xiaoyu; XIANG, Xinguang. (2024.0). *Proceedings of the 19th Conference on Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, Florida, USA, November 12-16,* (pp. 7929-7942) Miami, Florida, USA: Association for Computational Linguistics. (Published)

A survey of ontology expansion for conversational understanding, by LIANG, Jinggui; WU, Yuxia; FANG, Yuan; FEI, Hao; LIAO Lizi. (2024.0). *Proceedings of the 19th Conference on Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, Florida, USA, November 12-16,* (pp. 18111-18127) Miami, Florida: Association for Computational Linguistics. (Published)

DC-Instruct : an effective framework for generative multi-intent spoken language understanding, by XING, Bowen; LIAO, Lizi; HUANG, Minlie, TSANG, Ivor. (2024.0). *Proceedings of the 19th Conference on Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, Florida, USA, November 12-16,* (pp. 14520-14534) Miami, Florida, USA: Association for Computational Linguistics. (Published)

PCQPR : Proactive conversational question planning with reflection, by GUO, Shasha; LIAO, Lizi; ZHANG, Jing; LI, Cuiping; CHENG, Hong. (2024.0). *Proceedings of the 19th Conference on Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, Florida, USA, November 12-16,* (pp. 11266-11278) Miami, Florida, USA: Association for Computational Linguistics. (Published)

Experience as source for anticipation and planning : Experiential policy learning for target-driven recommendation dialogues, by DAO, Huy; DENG, Yang; BUI, Khanh-Huyen; LE, Dung D.; LIAO, Lizi. (2024.0). *Proceedings of the 19th Conference on Empirical Methods in Natural Language Processing (EMNLP 2024) : Miami, Florida, USA, November 12-16,* (pp. 14179-14198) USA: Association for Computational Linguistics. (Published)

Self-adaptive fine-grained multi-modal data augmentation for semi-supervised muti-modal coreference resolution, by ZHENG, Li; CHEN, Boyu; FEI, Hao; LI, Fei; WU, Shengqiong; LIAO, Lizi; JI, Donghong, TENG, Chong. (2024.0). *Proceedings of the 32nd ACM International Conference on Multimedia (ACMMM 2024) : Melbourne, Australia, Oct 28-Nov 1,* (pp. 8576-8585) Melbourne, Australia: Association for Computing Machinery. https://doi.org/10.1145/3664647.3680966 (Published)

Self-chats from large language models make small emotional support chatbot better, by ZHENG, Zhonghua; LIAO, Lizi; DENG, Yang; QIN, Libo; NIE, Liqiang. (2024.0). *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics, Bangkok, Thailand, 2024 August 11-16,* (pp. 11325-11345) USA: ACL. https://aclanthology.org/2024.acl-long.611 (Published)

EmpathyEar : An open-source avatar multimodal empathetic chatbot, by FEI, Hao; ZHANG, Han; WANG, Bin; LIAO, Lizi; LIU, Qian; CAMBRIA, Erik. (2024.0). *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL 2024) : Bangkok, Thailand, August 11-16,* (pp. 61-71) Bangkok, Thailand: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.acl-demos.7 (Published)

Planning like human : A dual-process framework for dialogue planning, by HE, Tao; LIAO, Lizi; CAO, Yixin; LIU, Yuanxing; LIU, Ming; CHEN, Zerui; QIN, Bing. (2024.0). *Proceedings of 62nd Annual Meeting of the Association for Computational Linguistics (ACL 2024) : Bangkok, Thailand, August 11-16,* (pp. 4768-4791) Bangkok, Thailand: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.acl-long.262 (Published)

Analyzing temporal complex events with large language models? A benchmark towards temporal, long context understanding, by ZHANG, Zhihan; CAO, Yixin; YE, Chenchen; MA. Yunshan; LIAO. Lizi; CHUA, Tat-Seng. (2024.0). *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL 2024) : Bangkok, Thailand, August 11-16,* (pp. 1588-1606) Bangkok, Thailand: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.acl-long.87 (Published)

Synergizing Large Language Models and pre-trained smaller models for conversational intent discovery, by LIANG, Jinggui; LIAO, Lizi; FEI, Hao; JIANG, Jing. (2024.0). *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL 2024) : Bangkok, Thailand, August 11-16,* (pp. 14133-14147) Bangkok, Thailand: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.findings-acl.840 (Published)

A survey on neural question generation : Methods, applications, and prospects, by GUO, Shasha; LIAO, Lizi; LI, Cuiping; CHUA, Tat-Seng. (2024.0). *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI 2024) : Jeju, South Korea, August 3-9,* (pp. 8038-8047) Jeju, South Korea: International Joint Conferences on Artificial Intelligence. https://doi.org/10.24963/ijcai.2024/889 (Published)

Towards human-centered proactive conversational agents, by DENG, Yang; LIAO, Lizi; ZHENG, Zhonghua; YANG, Grace Hui; CHUA, Tat-Seng. (2024.0). *SIGIR '24: Proceedings of the 47th International ACM SIGIR Conference on Research and Development in Information Retrieval, Washington, DC, July 14-18,* (pp. 807-818) New York: ACM. https://doi.org/10.1145/3626772.3657843 (Published)

Broadening the view: Demonstration-augmented prompt learning for conversational recommendation, by DAO, Huy; DENG, Yang; LE, Dung D.; LIAO, Lizi. (2024.0). *SIGIR '24: Proceedings of the 47th International ACM SIGIR Conference on Research and Development in Information Retrieval, Washington, DC, July 14-18,* (pp. 785-795) New York: ACM. https://doi.org/10.1145/3626772.3657755 (Published)

Actively learn from LLMs with uncertainty propagation for generalized category discovery, by LIANG, Jinggui; LIAO, Lizi; FEI, Hao; LI, Bobo; JIANG, Jing. (2024.0). *Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL 2024) : Mexico City, Mexico, Jun 16-21,* (pp. 7845-7858) Mexico City, Mexico: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.naacl-long.434 (Published)

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Mix-initiative response generation with dynamic prefix tuning, by NIE, Yuxiang; HUANG, Heyan; MAO, Xian-Ling; LIAO, Lizi. (2024.0). *Proceedings of the Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2024) : Mexico City, Mexico, June 16-21,* (pp. 8748-8761) Mexico City, Mexico: Association for Computational Linguistics. https://doi.org/10.18653/v1/2024.naacl-long.485 (Published)

Harnessing holistic discourse features and triadic interaction for sentiment quadruple extraction in dialogues, by LI, Bobo; FEI, Hao; LIAO, Lizi; et al. (2024.0). *Proceedings of the The 38th Annual AAAI Conference on Artificial Intelligence, Vancouver, Canada, 2024 February 20-27,* (pp. 18462-18470) Washington, DC: AAAI Press. https://doi.org/10.1609/aaai.v38i16.29807 (Published)

Reverse multi-choice dialogue commonsense inference with graph-of-thought, by ZHENG, Li; FEI, Hao; LI, Fei; Li, Bobo; LIAO, Lizi; JI, Donghong; TENG, Chong. (2024.0). *Proceedings of the 38th Annual AAAI Conference on Artificial Intelligence, Vancouver, Canada, 2024 February 20-27*

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Prompting and evaluating large language models for proactive dialogues: Clarification, target-guided, and non-collaboration, by DENG, Yang; LIAO, Lizi; CHEN, Liang; WANG, Hongru; LEI, Wenqiang; CHUA, Tat-Seng. (2023.0). *Proceeding of the 2023 Findings of the Association for Computational Linguistics, Singapore, December 6-10,* (pp. 10602-10621) Texas: Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.findings-emnlp.711 (Published)

ClusterPrompt: Cluster semantic enhanced prompt learning for new intent discovery, by LIANG, Jinggui;

LIAO, Lizi. (2023.0). *Findings of the Association for Computational Linguistics: EMNLP 2023,* (pp. 10468-10481) SIngapore: Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.findings-emnlp.702 (Published)

Prompting and evaluating large language models for proactive dialogues: Clarification, target-guided, and non-collaboration, by DENG, Yang; LIAO, Lizi; CHEN, Liang; WANG, Hongru; LEI, Wenqiang; CHUA, Tat-Seng. (2023.0). *Findings of the Association for Computational Linguistics: EMNLP 2023,* (pp. 10602-10621) Singapore: Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.findings-emnlp.711 (Published)

End-to-end task-oriented dialogue: A survey of tasks, methods, and future directions, by QIN, Libo; PAN, Wenbo; CHEN, Qiguang; LIAO, Lizi; YU, Zhou; ZHANG, Yue; CHE, Wanxiang; LI, Min. (2023.0). *2023 Conference on Empirical Methods in Natural Language Processing: Singapore, December 6-10: Proceedings,* (pp. 5925-5941) Stroudsburg, PA: Association for Computational Linguistics (ACL). https://doi.org/10.18653/v1/2023.emnlp-main.363 (Published)

Reinforced target-driven conversational promotion, by DAO, Huy Quang; LIAO, Lizi; LE, Dung D.; NIE, Yuxiang . (2023.0). *2023 Conference on Empirical Methods in Natural Language Processing: Singapore, December 6-10: Proceedings,* (pp. 12583-12596) Stroudsburg, PA: Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.emnlp-main.775 (Published)

Partial annotation-based video moment retrieval via iterative learning, by JI, Wei; LIANG, Renjie; LIAO, Lizi; FEI, Hao; FENG, Fuli. (2023.0). *Proceedings of the 31st ACM International Conference on Multimedia, Ottawa, Canada, 2023 October 29-November 3 ,* (pp. 4330-4339) New York: ACM. https://doi.org/10.1145/3581783.3612088 (Published)

Revisiting disentanglement and fusion on modality and context in conversational multimodal emotion recognition, by LI, Bobo; FEI, Hao; LIAO, Lizi; ZHAO, Yu; TENG, Chong; CHUA, Tat-Seng; Ji, Donghong; LI, Fei. (2023.0). *MM '23: Proceedings of the 31st ACM International Conference on Multimedia: Ottawa, October 29 - November 3,* (pp. 5923-5934) New York: ACM. https://doi.org/10.1145/3581783.3612053 (Published)

Real: A representative error-driven approach for active learning, by CHEN, Cheng; WANG, Yong; LIAO, Lizi; CHEN, Yueguo; DU, Xiaoyong. (2023.0). *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, Turin, Italy, 2023 September 18-22,* (pp. 20-37) New York: Springer. https://doi.org/10.1007/978-3-031-43412-9_2 (Published)

Proactive conversational agents in the post-ChatGPT world, by LIAO, Lizi; YANG, Grace Hui; SHAH, Chirag. (2023.0). *SIGIR '23: Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval, Taipei, July 23-27,* (pp. 3452-3455) New York: ACM. (Published)

DiaASQ: A benchmark of conversational aspect-based sentiment quadruple analysis, by LI, Bobo; FEI, Hao; LI, Fei; WU, Yuhan; ZHANG, Jinsong; WU, Shengqiong; LI, Jingye; LIU, Yijiang; LIAO, Lizi; CHUA, Tat-Seng; JI, Donghong
. (2023.0). *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics, Toronto, Canada, 2023 July 9-14,* (pp. 13449-13467) Texas: ACL. https://doi.org/10.18653/v1/2023.findings-acl.849 (Published)

Proactive conversational agents, by LIAO, Lizi; YANG, Grace Hui; SHAH, Chirag. (2023.0). *WSDM 2023: Proceedings of the 16th ACM International Conference on Web Search and Data Mining: Singapore, February 27-March 3,* (pp. 1244-1247) New York: ACM. https://doi.org/10.1145/3539597.3572724 (Published)

A unified dialogue user simulator for few-shot data augmentation, by WAN, Dazhen; ZHANG, Zheng; ZHU, Qi; LIAO, Lizi; HUANG, Minlie. (2022.0). *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing EMNLP: Abu Dhabi, December 7-11,* (pp. 3788-3799) Stroudsburg: ACL. https://aclanthology.org/2022.findings-emnlp.277/ (Published)

Semi-supervised new slot discovery with incremental clustering, by WU, Yuxia; LIAO, Lizi; QIAN, Xuemin; CHUA, Tat-Seng. (2022.0). *Findings of the 2022 Conference on Empirical Methods in Natural Language Processing, Abu Dhabi, 2022 December 7 -11,* Stroudsburg, Pennsylvania, United States: Association for Computational Linguistics. (Published)

Conversation disentanglement with bi-level contrastive learning, by HUANG, Chengyu; ZHANG, Zheng; FEI, Hao; LIAO, Lizi. (2022.0). *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing EMNLP, Abu Dhabi, December 7-11,* (pp. 2985-2996) Abu Dhabi: ACL.

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Reflecting on experiences for response generation, by YE, Chenchen; LIAO, Lizi; LIU, Suyu; CHUA, Tat-Seng. (2022.0). *Proceedings of the 30th ACM International Conference on Multimedia, Lisboa, Portugal, 2022 October 10 - 14,* (pp. 5265-5273) Lisbon: Association for Computing Machinery. https://doi.org/10.1145/3503161.3548305 (Published)

Structured and natural responses co-generation for conversational search, by YE, Chenchen; LIAO, Lizi; FENG, Fuli; JI, Wei; CHUA, Tat-Seng. (2022.0). *SIGIR '22: Proceedings of the 45th ACM SIGIR Conference on Research and Development in Information Retrieval, Madrid, July 11-15,* (pp. 155-164) New York: ACM. https://doi.org/10.1145/3477495.3532063 (Published)

Learning to ask critical questions for assisting product search, by LI, Zixuan; LIAO, Lizi; CHUA, Tat-Seng. (2022.0). *Proceedings of 2022 ACM SIGIR Workshop on eCommerce, Madrid, Spain, July 15,* Madrid: Association for Computing Machinery. https://sigir-ecom.github.io/ecom22Papers/paper_6978.pdf (Presented)

Towards enriching responses with crowd-sourced knowledge for task-oriented dialogue, by HE, Yingxu; LIAO, Lizi; ZHANG, Zheng; CHUA, Tat-Seng. (2021.0). *MuCAI '21: Proceedings of the 2nd ACM Multimedia Workshop on Multimodal Conversational AI, Virtual, October 24,* (pp. 3-11) New York: ACM. https://doi.org/10.1145/3475959.3485392 (Published)

Reproducibility companion paper: knowledge enhanced neural fashion trend forecasting, by MA, Yunshan; DING, Yujuan; YANG, Xun; LIAO, Lizi; WONG, Wai Keung; CHUA, Tat-Seng; MOON, Jinyoung; SHUAI, Hong-Han. (2021.0). *Proceedings of the 2021 International Conference on Multimedia Retrieval, Taipei, Taiwan, August 21 - 24,* (pp. 615-618) New York: Association for Computing Machinery. https://doi.org/10.1145/3460426.3463598 (Published)

MMConv: An environment for multimodal conversational search across multiple domains, by LIAO, Lizi; LONG, Le Hong; ZHANG, Zheng; HUANG, Minlie; CHUA, Tat-Seng. (2021.0). *SIGIR '21: Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval, July 11-15, Virtual,* (pp. 675-684) New York: ACM. https://doi.org/10.1145/3404835.3462970 (Published)

Multi-domain dialogue state tracking with recursive inference, by LIAO, Lizi; ZHU, Tongyao; LONG, Le Hong; CHUA, Tat-Seng
. (2021.0). *Proceedings of the 2021 World Wide Web Conference, Ljubljana, Slovenia, April 19 - 23,* (pp. 2568-2577) United States: Association for Computing Machinery. https://doi.org/10.1145/3442381.3450134 (Published)

Knowledge enhanced neural fashion trend forecasting, by MA, Yunshan; DING, Yujuan; YANG, Xun; LIAO, Lizi; WONG, Wai Keung; CHUA, Tat-Seng. (2020.0). *ICMR '20: Proceedings of the 2020 International Conference on Multimedia Retrieval,* (pp. 82-90) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3372278.3390677 (Published)

Automatic fashion knowledge extraction from social media, by MA, Yunshan; LIAO, Lizi; CHUA, Tat-Seng. (2019.0). *MM '19: Proceedings of the 27th ACM International Conference on Multimedia,* (pp. 2223-2224) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3343031.3350607 (Published)

Who, where, and what to wear?: extracting fashion knowledge from social media, by MA, Yunshan; YANG, Xun; LIAO, Lizi; CAO, Yixin; CHUA, Tat-Seng. (2019.0). *MM '19: Proceedings of the 27th ACM International Conference on Multimedia,* (pp. 257-265) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3343031.3350889 (Published)

Neural multimodal belief tracker with adaptive attention for dialogue systems, by ZHANG, Zheng; LIAO, Lizi; HUANG, Minlie; ZHU, Xiaoyan; CHUA, Tat-Seng. (2019.0). *WWW '19: The World Wide Web Conference,* (pp. 2401-2412) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3308558.3313598 (Published)

TransNFCM: translation-based neural fashion compatibility modeling, by YANG, Xun; MA, Yunshan; LIAO, Lizi; WANG, Meng; CHUA, Tat-Seng. (2019.0). *Proceedings of the 33rd AAAI Conference on Artificial Intelligence, Honolulu, Hawaii, USA, 2019 January 27 - February 1,* (pp. 403-410) Hawaii: AAAI Press. https://doi.org/10.1609/aaai.v33i01.3301403 (Published)

Interpretable multimodal retrieval for fashion products, by LIAO, Lizi; HE, Xiangnan; ZHAO, Bo; NGO, Chong-Wah; CHUA, Tat-Seng. (2018.0). *MM '18: Proceedings of the 26th ACM international conference on*

Multimedia, (pp. 1571-1579) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3240508.3240646 (Published)

Knowledge-aware multimodal dialogue systems, by LIAO, Lizi; MA, Yunshan; HE, Xiangnan; HONG, Richang; CHUA, Tat-Seng. (2018.0). *MM '18: Proceedings of the 26th ACM international conference on Multimedia,* (pp. 801-809) New York, NY, United States: Association for Computing Machinery. https://doi.org/10.1145/3240508.3240605 (Published)

Knowledge-aware multimodal fashion chatbot, by LIAO, Lizi; ZHOU, You; MA, Yunshan; HONG, Richang; CHUA, Tat-Seng. (2018.0). *MM '18: Proceedings of the 26th ACM international conference on Multimedia, Seoul, October 22-26,* (pp. 1265-1266) Seoul Republic of Korea : ACM. http://doi.org/10.1145/3240508.3241399 (Published)

Representativeness-aware aspect analysis for brand monitoring in social media, by LIAO, Lizi; HE, Xiangnan; REN, Zhaochun; NIE, Liqiang; XU, Huan; CHUA, Ta-Seng. (2017.0). *Proceedings of the 26th International Joint Conference on Artificial Intelligence, Melbourne, Australia, 2017 August 19 - 25,* (pp. 310-316) Melbourne, Australia: AAAI Press. https://doi.org/10.24963/ijcai.2017/44 (Published)

Neural collaborative filtering, by HE, Xiangnan; LIAO, Lizi; ZHANG, Hanwang; NIE, Liqiang; HU, Xia; CHUA, Tat-Seng. (2017.0). *Proceedings of the 26th International Conference on World Wide Web, Perth, Australia, 2017 April 3 - 7,* (pp. 173-182) Republic and Canton of Geneva, Switzerland: International World Wide Web Conferences Steering Committee. https://doi.org/10.1145/3038912.3052569 (Published)

SLR: A scalable latent role model for attribute completion and tie prediction in social networks, by LIAO, Lizi; HO, Qirong; JIANG, Jing; LIM, Ee Peng. (2016.0). *2016 IEEE 32nd International Conference on Data Engineering (ICDE),* (pp. 1062-1073) Helsinki: IEEE. https://doi.org/10.1109/ICDE.2016.7498313 (Published)

Lifetime lexical variation in social media, by LIAO, Lizi; JIANG, Jing; DING, Ying; HUANG, Heyan; LIM, Ee-Peng. (2014.0). *Proceedings of the 28th AAAI Conference on Artificial Intelligence, Québec, Canada, 2014 July 27 - 31,* (pp. 1643-1649) Palo Alto, California, U.S.: AAAI Press. https://www.aaai.org/Conferences/AAAI/aaai14.php (Published)

Research Grants

Singapore Management University

ProExpan: Proactive Ontology Expansion for Conversational Agents, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): LIAO Lizi , Co-PI (Project Level): Jing JIANG, 2023, S$729,963

Advancing LLMs for Target-Driven Conversation: A Dual Model Framework, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): LIAO Lizi , Co-PI (Project Level): LIM Ee Peng, 2023, S$190,000

Multi-Party Response Generation with Unsupervised Conversation Disentanglement, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): LIAO Lizi, 2022, S$99,720

Other Institutions

FrankLM: Fact-check and report automation via neural knowledge Language Modeling, AI Research Grant, AISG PI (Project Level): Wei GAO, Co-PI (Project Level): LIAO Lizi, LIM Ee Peng, 2025, SGD998,660

Trustworthy Multimodal Foundation Models: A Scalable Multi-Agent Approach, NMLP, AISG CHUA Tat-Seng, Co-PI (Project Level): LIAO Lizi, NG See-Kiong, 2025, SGD4,899,960

Gemini Academic Program Award, Gemini Academic Program Award, Google PI (Project Level): LIAO Lizi, 2025, SGD67,500

Advancing Large Language Models for Target-Driven Conversation, Google South Asia & Southeast Asia research awards 2023, Google PI (Project Level): LIAO Lizi, 2024, SGD39,546

Text Style Transfer with Pre-trained Language Models, DSO National Laboratories, DSO National Laboratories PI (Project Level): LIAO Lizi, 2022, SGD325,066

TEACHING

Teaching Areas

ISSS609 Text Analytics and Applications
IS428 Visual Analytis for Business Intelligence
IS483 Project Experience (Applications)

Courses Taught

<u>Singapore Management University</u>

Undergraduate Programmes :

Data Management

IS/SMT Project Experience (Applications)

Visual Analytics for Business Intelligence

Postgraduate Professional Programmes :

Text Analytics and Applications

Postgraduate Research Programmes :

Empirical Research Project 1

Empirical Research Project 2

Empirical Research Project 4

UNIVERSITY SERVICE

Singapore Management University

Faculty Advisor, SMU Open House, Feb 2025 - Present

Committee Member, SCIS Faculty candidate Interview, Oct 2024

Faculty Advisor, CS Admissions Interview, May 2024

Faculty Advisor, SMU SCIS admission sample class, Apr 2024

Faculty Advisor, SMU Open House, Feb 2024

EXTERNAL SERVICE – PROFESSIONAL

Conference Chair, Workshop Co-Chair, ACM Multimedia Asia 2025, 2025 - Present

Conference Chair, Student Travel Award Chair, ICAIF 2025, 2025 - Present

Editor Associate Editor, Transactions on Information Systems, 2025 - Present

Reviewer Grant Proposal, Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant, 2024 - 2025

Editor Associate Editor, Associate Editor, Transactions on Multimedia Computing Communications and Applications, 2024 - Present

Workshop Organizer, Workshop Organizer, The 2nd International Workshop on Deep Multi-modal Generation and Retrieval, 2024

Area Chair, ACL 2024, 2024

Judge, Judging Panel, The 7th Annual ACM Workshop on the Lifelog Search Challenge, 2024

Conference Chair, Local Arrangements Chair, The Web Conference 2024 organizer, 2024

Reviewer Journal Article, Computational Linguistics, 2024 - Present

Reviewer Journal Article, Reviewer, IEEE Transactions on Multimedia, 2024 - Present

Reviewer Journal Article, ACM Transactions on Information Systems (TOIS), 2024 - Present

Conference Chair, WSDM 2023 Organizers, ACM, 2023

Area Chair, NLPCC2022 Organizers, CCF, 2022

Session Chair, ACM SIGIR 2022 Organizers, ACM, 2022

Program Coordinator, ACMMM19 Organizers, ACM, 2019