[3] C.-W. Goo et al., “Slot-gated modeling for joint slot filling and intent

prediction,” in Proc. Conf. North Amer. Chapter Assoc. Comput. Lin-

guistics: Hum. Lang. Technol., New Orleans, Louisiana, Association for

Computational Linguistics, 2018, pp. 753–757.

[4] C. Li, L. Li, and J. Qi, “A self-attentive model with gate mechanism

for spoken language understanding,” in Proc. Conf. Empirical Methods

Natural Lang. Process., Brussels, Belgium, Association for Computational

Linguistics, 2018, pp. 3824–3833.

[5] Y. Liu, F. Meng, J. Zhang, J. Zhou, Y. Chen, and J. Xu, “CM-Net: A

novel collaborative memory network for spoken language understand-

ing,” in Proc. Conf. Empirical Methods Natural Lang. Process. 9th Int.

Joint Conf. Natural Lang. Process., Hong Kong, China, Association for

Computational Linguistics, 2019, pp. 1051–1060.

[6] H. E., P. Niu, Z. Chen, and M. Song, “A novel bi-directional interrelated

model for joint intent detection and slot filling,” in Proc. 57th Annu.

Meeting Assoc. Comput. Linguistics, Florence, Italy, Association for Com-

putational Linguistics, 2019, pp. 5467–5471.

[7] L. Qin, W. Che, Y. Li, H. Wen, and T. Liu, “A stack-propagation framework

with token-level intent detection for spoken language understanding,” in

Proc. Conf. Empirical Methods Natural Lang. Process. 9th Int. Joint Conf.

Natural Lang. Process., Hong Kong, China, Association for Computa-

tional Linguistics, 2019, pp. 2078–2087.

[8] B. Kim, S. Ryu, and G. G. Lee, “Two-stage multi-intent detection for

spoken language understanding,” Multimedia Tools Appl., vol. 76, no. 9,

pp. 11377–11390, 2017.

[9] R. Gangadharaiah and B. Narayanaswamy, “Joint multiple intent detec-

tion and slot labeling for goal-oriented dialog,” in Proc. Conf. North

Amer. Chapter Assoc. Comput. Linguistics: Hum. Lang. Technol., Min-

neapolis, Minnesota: Association for Computational Linguistics, 2019,

pp. 564–569.

[10] L. Qin, X. Xu, W. Che, and T. Liu, “AGIF: An adaptive graph-interactive

framework for joint multiple intent detection and slot filling,” in Proc.

Findings Assoc. Comput. Linguistics: EMNLP, 2020, pp. 1807–1816.

[12] L. Qin, F. Wei, T. Xie, X. Xu, W. Che, and T. Liu, “GL-GIN: Fast and

accurate non-autoregressive model for joint multiple intent detection and

slot filling,” in Proc. 59th Annu. Meeting Assoc. Comput. Linguistics 11th

Int. Joint Conf. Natural Lang. Process., Association for Computational

Linguistics, 2021, pp. 178–188.

[14] X. Zhang and H. Wang, “A joint model of intent determination and slot

filling for spoken language understanding,” in Proc. 25th Int. Joint Conf.

Artif. Intell., New York, NY, USA, 2016, pp. 2993–2999.

[15] D. Hakkani-Tür et al., “Multi-domain joint semantic frame parsing us-

ing bi-directional RNN-LSTM,” in Proc. 17th Annu. Conf. Int. Speech

Commun. Assoc., 2016, pp. 715–719.

[16] C. Zhang, Y. Li, N. Du, W. Fan, and P. Yu, “Joint slot filling and intent

detection via capsule neural networks,” in Proc. 57th Annu. Meeting As-

soc. Comput. Linguistics, Florence, Italy, Association for Computational

Linguistics, 2019, pp. 5259–5267.

[17] D. Wu, L. Ding, F. Lu, and J. Xie, “SlotRefine: A fast non-autoregressive

model for joint intent detection and slot filling,” in Proc. Conf. Empirical

Methods Natural Lang. Process., Association for Computational Linguis-

tics, 2020, pp. 1932–1937.

[18] L. Qin, T. Liu, W. Che, B. Kang, S. Zhao, and T. Liu, “A co-interactive

transformer for joint slot filling and intent detection,” in Proc. IEEE Int.

Conf. Acoust., Speech Signal Process., 2021, pp. 8193–8197.

[19] J. Ni, T. Young, V. Pandelea, F. Xue, V. Adiga, and E. Cambria, “Recent

advances in deep learning based dialogue systems: A systematic survey,”

2021, arXiv:2105.04387.

[20] Y. Cao, Z. Liu, C. Li, Z. Liu, J. Li, and T.-S. Chua, “Multi-channel graph

neural network for entity alignment,” in Proc. 57th Annu. Meeting As-

soc. Comput. Linguistics, Florence, Italy, Association for Computational

Linguistics, 2019, pp. 1452–1461.

[21] K. Wang, W. Shen, Y. Yang, X. Quan, and R. Wang, “Relational graph

attention network for aspect-based sentiment analysis,” in Proc. 58th

Annu. Meeting Assoc. Comput. Linguistics, Association for Computational

Linguistics, 2020, pp. 3229–3238.

[22] J. Shi, S. Cao, L. Hou, J. Li, and H. Zhang, “TransferNet: An effective

and transparent framework for multi-hop question answering over relation

graph,” in Proc. Conf. Empirical Methods Natural Lang. Process., Punta

Cana, Dominican Republic:Association for Computational Linguistics,

2021, pp. 4149–4158.

[23] B. Xing and I.W. Tsang, “Understand me, if you refer to aspect knowledge:

Knowledge-aware gated recurrent memory network,” IEEE Trans. Emerg.

Topics Comput. Intell., vol. 6, no. 5, pp. 1092–1102, Oct. 2022.

[24] B. Xing and I. Tsang, “DARER: Dual-task temporal relational recurrent

reasoning network for joint dialog sentiment classification and act recog-

nition,” in Proc. Findings Assoc. Comput. Linguistics. Dublin, Ireland,

Association for Computational Linguistics, May 2022, pp. 3611–3621.

[25] B. Xing and I. Tsang, “DigNet: Digging clues from local-global interactive

graph for aspect-level sentiment classification,” 2022, arXiv:2201.00989.

[26] C. Zhang, Q. Li, and D. Song, “Aspect-based sentiment classification with

aspect-specific graph convolutional networks,” in Proc. Conf. Empirical

Methods Natural Lang. Process. 9th Int. Joint Conf. Natural Lang. Pro-

cess., 2019, pp. 4568–4578.

[27] B. Xing and I. Tsang, “Neural subgraph explorer: Reducing noisy infor-

mation via target-oriented syntax graph pruning,” in Proc. 31st Int. Joint

Conf. Artif. Intell., 2022, pp. 4425–4431.

[28] B. Xing and I. W. Tsang, “Co-evolving graph reasoning network for

emotion-cause pair extraction,” in Proc. Joint Eur. Conf. Mach. Learn.

Knowl. Discov. Databases: Res. Track, Cham, Switzerland, Springer Na-

ture, 2023, pp. 305–322.

[29] B. Xing and I. W. Tsang, “Relational temporal graph reasoning for dual-

task dialogue language understanding,” IEEE Trans. Pattern Anal. Mach.

Intell., vol. 45, no. 11, pp. 13170–13184, Nov. 2023.

[30] M. S. Schlichtkrull et al., “Modeling relational data with graph convolu-

tional networks,” inProc. Semantic Web 15th Int. Conf., 2018, pp. 593–607.

[31] B. Xing and I. Tsang, “Group is better than individual: Exploiting label

topologies and label relations for joint multiple intent detection and slot

filling,” in Proc. Conf. Empirical Methods Natural Lang. Process., Abu

Dhabi, United Arab Emirates, Association for Computational Linguistics,

2022, pp. 3964–3975. [Online]. Available: https://aclanthology.org/2022.

emnlp-main.263

[32] D. Zhang et al., “Pairwise supervised contrastive learning of sentence

representations,” in Proc. Conf. Empirical Methods Natural Lang. Pro-

cess., Punta Cana, Dominican Republic, Association for Computational

Linguistics, 2021, pp. 5786–5798.

[33] Y. Zhou, P. Liu, and X. Qiu, “KNN-contrastive learning for out-of-domain

intent classification,” in Proc. 60th Annu. Meeting Assoc. Comput. Linguis-

tics, Dublin, Ireland, Association for Computational Linguistics, 2022,

pp. 5129–5141.

[34] Z. Wang, P. Wang, L. Huang, X. Sun, and H. Wang, “Incorporating hierar-

chy into text encoder: A contrastive learning approach for hierarchical text

classification,” in Proc. 60th Annu. Meeting Assoc. Comput. Linguistics,

2022, pp. 7109–7119.

[35] L. Qin et al., “GL-CLeF: A global–local contrastive learning framework

for cross-lingual spoken language understanding,” in Proc. 60th Annu.

Meeting Assoc. Comput. Linguistics, Dublin, Ireland, Association for

Computational Linguistics, 2022, pp. 2677–2686.