

REFERENCES

- [1] Quan, C. and Ren, F., 2014. Unsupervised product feature extraction for feature-oriented opinion determination. *Information Sciences*, 272, pp.16-28.
- [2] Su, Q., Xiang, K., Wang, H., Sun, B. and Yu, S., 2006, November. Using point wise mutual information to identify implicit features in customer reviews. In *ICCPOL* (Vol. 4285, pp. 22-30).
- [3] Hai, Z., Chang, K. and Kim, J.J., 2011. Implicit feature identification via co-occurrence association rule mining. *Computational Linguistics and Intelligent Text Processing*, pp.393-404.
- [4] Wang, W., Xu, H. and Wan, W., 2013. Implicit feature identification via hybrid association rule mining. *Expert Systems with Applications*, 40(9), pp.3518-3531.
- [5] Xu, H., Zhang, F. and Wang, W., 2015. Implicit feature identification in Chinese reviews using explicit topic mining model. *Knowledge-based systems*, 76, pp.166-175.
- [6] Karmaker Santu, S.K., Sondhi, P. and Zhai, C., 2016, October. Generative Feature Language Models for Mining Implicit Features from Customer Reviews. In *Proceedings of the 25th ACM International on Conference on Information and Knowledge Management* (pp. 929-938). ACM.
- [7] Zhang, Y. and Zhu, W., 2013, May. Extracting implicit features in online customer reviews for opinion mining. In *Proceedings of the 22nd International Conference on World Wide Web* (pp. 103-104). ACM.
- [8] Liu, L., Lv, Z. and Wang, H., 2013. Extract Product Features in Chinese Web for Opinion Mining. *JSW*, 8(3), pp.627-632.
- [9] Poria, S., Cambria, E., Ku, L.W., Gui, C. and Gelbukh, A., 2014, August. A rule-based approach to aspect extraction from product reviews. In *Proceedings of the second workshop on natural language processing for social media (SocialNLP)*(pp. 28-37).
- [10] Zeng, L. and Li, F., 2013. A classification-based approach for implicit feature identification. In *Chinese Computational Linguistics and Natural Language Processing Based on Naturally Annotated Big Data* (pp. 190-202). Springer, Berlin, Heidelberg.
- [11] Bhatnagar, V., Goyal, M. and Hussain, M.A., 2016, August. A Proposed framework for improved identification of implicit aspects in tourism domain using supervised learning technique. In *Proceedings of the International Conference on Advances in Information Communication Technology & Computing* (p. 56). ACM.
- [12] Wagstaff, K., Cardie, C., Rogers, S. and Schrödl, S., 2001, June. Constrained k-means clustering with background knowledge. In *ICML* (Vol. 1, pp. 577-584).
- [13] Bauman, K., Liu, B. and Tuzhilin, A., 2017, August. Aspect Based Recommendations: Recommending Items with the Most Valuable Aspects Based on User Reviews. In *Proceedings of the 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining* (pp. 717-725). ACM.
- [14] Zhang, L., Liu, B., Lim, S.H. and O'Brien-Strain, E., 2010, August. Extracting and ranking product features in opinion documents. In *Proceedings of the 23rd international conference on computational linguistics: Posters* (pp. 1462-1470). Association for Computational Linguistics.

- [15] Hu, M. and Liu, B., 2004, August. Mining and summarizing customer reviews. In Proceedings of the tenth ACM SIGKDD international conference on Knowledge discovery and data mining (pp. 168-177). ACM.
- [16] Jindal, N. and Liu, B., 2008, February. Opinion spam and analysis. In Proceedings of the 2008 International Conference on Web Search and Data Mining (pp. 219-230). ACM.
- Qiu, G., Liu, B., Bu, J. and Chen, C., 2011. Opinion word expansion and target extraction through double propagation. *Computational linguistics*, 37(1), pp.9-27.
- [17] Lalithamani, N., Thati, L.S. and Adhikesavan, R., 2014. Sentence level sentiment polarity calculation for customer reviews by considering complex sentential structures. *IJRET: International Journal of Research in Engineering and Technology*, 3.
- [18] Xu, H., Liu, B., Shu, L. and Yu, P.S., 2018. Double embeddings and cnn-based sequence labeling for aspect extraction. arXiv preprint arXiv:1805.04601.
- [19] Shen, Y., Rong, W., Jiang, N., Peng, B., Tang, J. and Xiong, Z., 2017, February. Word embedding based correlation model for question/answer matching. In Thirty-First AAAI Conference on Artificial Intelligence.
- [20] Mikolov, T., Le, Q.V. and Sutskever, I., 2013. Exploiting similarities among languages for machine translation. arXiv preprint arXiv:1309.4168.
- [21] Mikolov, T., Sutskever, I., Chen, K., Corrado, G.S. and Dean, J., 2013. Distributed representations of words and phrases and their compositionality. In Advances in neural information processing systems (pp. 3111-3119).
- [22] Mikolov, T., Chen, K., Corrado, G. and Dean, J., 2013. Efficient estimation of word representations in vector space. arXiv preprint arXiv:1301.3781.
- [23] Pennington, J., Socher, R. and Manning, C., 2014. Glove: Global vectors for word representation. In Proceedings of the 2014 conference on empirical methods in natural language processing (EMNLP) (pp. 1532-1543).
- [24] LeCun, Y. and Bengio, Y., 1995. Convolutional networks for images, speech, and time series. *The handbook of brain theory and neural networks*, 3361(10), p.1995.
- [25] Levy, O., Goldberg, Y. and Dagan, I., 2015. Improving distributional similarity with lessons learned from word embeddings. *Transactions of the Association for Computational Linguistics*, 3, pp.211-225.
- [26] Xu, H., Liu, B., Shu, L. and Yu, P.S., 2018. Lifelong domain word embedding via meta-learning. arXiv preprint arXiv:1805.09991.
- [27] Bojanowski, P., Grave, E., Joulin, A. and Mikolov, T., 2017. Enriching word vectors with subword information. *Transactions of the Association for Computational Linguistics*, 5, pp.135-146.
- [28] Sienčnik, S.K., 2015, May. Adapting word2vec to named entity recognition. In Proceedings of the 20th nordic conference of computational linguistics, nodalida 2015, may 11-13, 2015, vilnius, lithuania (No. 109, pp. 239-243). Linköping University Electronic Press.
- [29] Liu, P., Joty, S. and Meng, H., 2015. Fine-grained opinion mining with recurrent neural networks and word embeddings. In Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (pp. 1433-1443).
- [30] Wang, S., Mazumder, S., Liu, B., Zhou, M. and Chang, Y., 2018, July. Target-sensitive memory networks for aspect sentiment classification. In Proceedings of the 56th Annual

Meeting of the Association for Computational Linguistics (Volume 1: Long Papers) (pp. 957-967).

- [31] Li, X. and Lam, W., 2017, September. Deep multi-task learning for aspect term extraction with memory interaction. In Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing (pp. 2886-2892).
- [32] Tsvetkov, Y., Faruqui, M. and Dyer, C., 2016. Correlation-based intrinsic evaluation of word vector representations. arXiv preprint arXiv:1606.06710.
- [33] Tsvetkov, Y., Faruqui, M., Ling, W., Lample, G. and Dyer, C., 2015. Evaluation of word vector representations by subspace alignment. In Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (pp. 2049-2054).
- [34] Shen, Y., Rong, W., Sun, Z., Ouyang, Y. and Xiong, Z., 2015, February. Question/answer matching for CQA system via combining lexical and sequential information. In Twenty-Ninth AAAI Conference on Artificial Intelligence.
- [35] Faruqui, M., Tsvetkov, Y., Rastogi, P. and Dyer, C., 2016. Problems with evaluation of word embeddings using word similarity tasks. arXiv preprint arXiv:1605.02276.
- [36] Pennington, J., Socher, R. and Manning, C.D., 2014, October. Glove: Global vectors for word representation. In Proceedings of the 2014 conference on empirical methods in natural language processing (EMNLP) (pp. 1532-1543).
- [37] He, R. and McAuley, J., 2016, April. Ups and downs: Modeling the visual evolution of fashion trends with one-class collaborative filtering. In proceedings of the 25th international conference on world wide web (pp. 507-517). International World Wide Web Conferences Steering Committee.
- [38] McAuley, J., Targett, C., Shi, Q. and Van Den Hengel, A., 2015, August. Image-based recommendations on styles and substitutes. In Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval (pp. 43-52). ACM.
- [39] Panchendrarajan, R., Ahamed, N., Murugaiah, B., Sivakumar, P., Ranathunga, S. and Pemasiri, A., 2016, June. Implicit aspect detection in restaurant reviews using cooccurrence of words. In Proceedings of the 7th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (pp. 128-136).
- [40] Feng, J., Cai, S. and Ma, X., 2019. Enhanced sentiment labeling and implicit aspect identification by integration of deep convolution neural network and sequential algorithm. Cluster Computing, 22(3), pp.5839-5857.