

REFERENCES

- [1] A. S. Rini, "Industri Kosmetik Diproyeksi Naik 7%-9% pada 2019," *EKONOMI*, 10 Desember 2018. [Online]. Available: <https://ekonomi.bisnis.com/read/20181210/257/868192/industri-kosmetik-diproyeksi-naik-7-9-pada-2019>. [Diakses 31 Maret 2024].
- [2] P. A. Sukarno dan F. S. Dewi, "Industri Kecantikan Indonesia, Pasar yang Terus Menggelembung," *BISNIS TEKNO*, 21 Agustus 2019. [Online]. Available: <https://teknologi.bisnis.com/read/20190821/266/1139365/industri-kecantikan-indonesia-pasar-yang-terus-mengelembung->. [Diakses 31 Maret 2024].
- [3] N. F. Putri, S. A. Faraby dan M. Dwifabri, "Analisis Sentimen pada Produk Kecantikan dari Ulasan Female Daily Menggunakan Information Gain dan SVM Classifier," *e-Proceeding of Engineering*, vol. 8, pp. 10068-10079, 2021.
- [4] R. G. Purnasiwi, Kusri dan M. Hanafi, "Analisis Sentimen Pada Review Produk Skincare Menggunakan Word Embedding dan Metode Long Short-Term Memory (LSTM)," *INNOVATIVE: Journal Of Social Science Research*, vol. 3, pp. 11433-11448, 2023.
- [5] S. Imron, E. I. Setiawan dan J. Santoso, "Deteksi Aspek Review E-Commerce Menggunakan IndoBERT Embedding dan CNN," *INSYST*, pp. 10-16, 2023.
- [6] Asmi P dan Sanaj M S, "Toxic Speech Classification via Deep Learning using Combined Features from BERT & FastText Embedding," *International Journal of Engineering Research & Technology (IJERT)*, vol. 9, pp. 68-71, 2021.
- [7] B. Juarto dan Yulianto, "Indonesian News Classification Using IndoBert," *International Journal of Intelligent Systems and Applications in Engineering*, vol. 11, p. 454-460, 2023.
- [8] VAZAN, Milad; MASOUMI, Fatemeh Sadat; MAJD, Sepideh Saeedi. A Deep Convolutional Neural Networks Based Multi-Task Ensemble Model for Aspect and Polarity Classification in Persian Reviews. *arXiv preprint arXiv:2201.06313*, 2022
- [9] Y. Widhiyana, T. Semiawan, I. G. A. Mudzakir dan M. R. Noor, "Penerapan Convolutional Long Short-Term Memory untuk Klasifikasi Teks Berita Bahasa Indonesia," *Jurnal Nasional Teknik Elektro dan Teknologi Informasi*, vol. 10, pp. 354-361, 2021.
- [10] Ankita, S. Rani, A. K. Bashir, A. Alhudhaif, D. Koundal dan E. S. Gunduz, "An efficient CNN-LSTM model for sentiment detection in #BlackLivesMatter," *Expert Systems With Applications*, 2022.
- [11] W. Meng, Y. Wei, P. Liu, Z. Zhu and H. Yin, "Aspect Based Sentiment Analysis With Feature Enhanced Attention CNN-BiLSTM," in *IEEE Access*, vol. 7, pp. 167240-167249, 2019, doi: 10.1109/ACCESS.2019.2952888
- [12] Syaiful Imron, E. I. Setiawan, Joan Santoso, and Mauridhi Hery Purnomo, "Aspect Based Sentiment Analysis Marketplace Product Reviews Using BERT, LSTM, and CNN," *J. RESTI (Rekayasa Sist. Teknol. Inf.)*, vol. 7, no. 3, pp. 586 - 591, Jun. 2023.
- [13] M. D. Y. Fordana dan N. Rochmawati, "Optimisasi Hyperparameter CNN Menggunakan Random Search Untuk Deteksi COVID-19 Dari Citra X-Ray Dada," *JINACS (Journal of Informatics and Computer Science)*, vol. 4, pp. 10-18, 2022.
- [14] C. H. Yutika, Adiwijaya dan S. A. Faraby, "Analisis Sentimen Berbasis Aspek pada Review Female Daily Menggunakan TF-IDF dan Naïve Bayes," *JURNAL MEDIA INFORMATIKA BUDIDARMA*, vol. 5, pp. 422-430, 2021.

- [15] Q. L. Tran, P. T. D. Le dan T. H. Do, "Aspect-based Sentiment Analysis for Vietnamese Reviews about Beauty Product on E-commerce Websites," *In Proceedings of the 36th Pacific Asia Conference on Language, Information and Computation*, p. 767–776, 2022.
- [16] K. L. Tan, C. P. Lee dan K. M. Lim, "A Survey of Sentiment Analysis: Approaches, Datasets, and Future Research," *Applied Sciences*, pp. 1-21, 2023.
- [17] M. Birjali, M. Kasri dan A. Beni-Hssane, "A comprehensive survey on sentiment analysis: Approaches, challenges and trends," *Knowledge-Based Systems*, pp. 1-26, 2021.
- [18] N. C. Dang, M. N. Moreno-García dan F. D. I. Prieta, "Sentiment Analysis Based on Deep Learning: A Comparative Study," *Electronics*, pp. 1-29, 2020.
- [19] X. Fang dan J. Tao, "A Transfer Learning based Approach for Aspect Based Sentiment Analysis," *2019 Sixth International Conference on Social Networks Analysis, Management and Security (SNAMS)*, pp. 478-483, 2019.
- [20] Y. Tian, G. Chen dan Y. Song, "Aspect-based Sentiment Analysis with Type-aware Graph Convolutional Networks and Layer Ensemble," *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, p. 2910–2922, 2021.
- [21] B. Liang , H. Su, L. Gui, E. Cambria dan R. Xu, "Aspect-based sentiment analysis via affective knowledge enhanced graph convolutional networks," *Knowledge-Based Systems*, 2022.
- [22] R. K. Yadav, L. Jiao, M. Goodwin dan O. C. Granmo, "Positionless aspect based sentiment analysis using attention mechanism," *Knowledge-Based Systems*, 2021.
- [23] S. Cahyaningtyas, D. H. Fudholi dan A. F. Hidayatulla, "Deep learning for aspect-based sentiment analysis on Indonesian hotels reviews," *Kinetik: Game Technology, Information System, Computer Network, Computing, Electronics, and Control*, pp. 277-288, 2021.
- [24] P. A. Aritonang, M. E. Johan dan I. Prasetiawan, "Aspect-Based Sentiment Analysis on Application Review using CNN," *Ultima Infosys : Jurnal Ilmu Sistem Informasi*, pp. 54-61, 2022.
- [25] R. Jayanto, R. Kusumaningrum dan A. Wibowo, "Aspect-based sentiment analysis for hotel reviews using an improved model of long short-term memory," *International Journal of Advances in Intelligent Informatics*, pp. 391-403, 2022.
- [26] S. A. Dabet, S. Tedmori dan M. A. Smadi, "Enhancing Arabic aspect-based sentiment analysis using deep learning models," *Computer Speech & Language*, vol. 69, pp. 1-17, 2021.
- [27] D. I. Afidah, P. D. Anggraeni, M. Rizki, A. B. Setiawan dan S. F. Handayani, "Aspect-Based Sentiment Analysis for Indonesian Tourist Attraction Reviews Using Bidirectional Long Short-Term Memory," *JUITA: Jurnal Informatika*, vol. 11, pp. 27-36, 2023.
- [28] A. Rahmawati , A. Alamsyah dan A. Romadhony , "Hoax News Detection Analysis using IndoBERT Deep Learning Methodology," *International Conference on Information and Communication Technology (ICoICT)*, pp. 368-373, 2020
- [29] A. R. Maulana, S. H. Wijoyo dan Y. T. Mursityo, "Analisis Sentimen Kebijakan Penerapan Kurikulum Merdeka Sekolah Dasar Dan Sekolah Menengah Pada Media Sosial Twitter Dengan Menggunakan Metode Word Embedding Dan Long Short-Term Memory Networks (Lstm)," *Jurnal Teknologi Informasi dan Ilmu Komputer (JTIIK)*, vol. 10, pp. 523-530, 2023.

- [30] K. Shuang, M. Gu, R. Li, J. Loo dan S. Su, "Interactive POS-aware network for aspect-level sentiment classification," *Neurocomputing*, vol. 420, pp. 181-196, 2021.
- [31] H. K. Maragheh, F. S. Gharehchopogh, K. Majidzadeh dan A. B. Sangar, "A Hybrid Model Based on Convolutional Neural Network and Long Short-Term Memory for Multi-label Text Classification," *Neural Processing Letters*, vol. 56, pp. 1-31, 2024.
- [32] S. Ahmad, S. M. Saqib dan A. H. Syed, "CNN and LSTM based hybrid deep learning model for sentiment analysis on Arabic text reviews," *Mehran University Research Journal of Engineering and Technology*, vol. 43, pp. 183-194, 2024.
- [33] Z. Anwar, H. Afzal, A. Ahsan, N. Iltaf dan A. Maqbool, "A novel hybrid CNN-LSTM approach for assessing StackOverflow post quality," *Journal of Intelligent Systems*, vol. 32, pp. 1-21, 2023.
- [34] L. Yao, "Sentiment analysis based on CNN -LSTMhotel reviews," *Journal of Physics: Conference Series*, vol. 2330, 2022.
- [35] P. K. Jain, V. Sarvanan dan R. Pamula, "A Hybrid CNN-LSTM: A Deep Learning Approach for Consumer Sentiment Analysis Using Qualitative User-Generated Contents," *ACM Trans. Asian Low-Resour. Lang. Inf. Process*, vol. 20, pp. 1-15, 2021.
- [36] N. Mohd, H. Singhdev dan D. Upadhyay, "TEXT CLASSIFICATION USING CNN AND CNN-LSTM," *Webology*, vol. 18, pp. 2440-2446, 2021.
- [37] H. Elzayady, K. M. Badran dan G. I. Salama, "Arabic Opinion Mining Using Combined CNN - LSTM Models," *I.J. Intelligent Systems and Applications*, vol. 4, pp. 25-36, 2020.
- [38] F. Baharuddin dan M. F. Naufal, "Fine-Tuning IndoBERT for Indonesian Exam Question Classification Based on Bloom's Taxonomy," *Journal of Information Systems Engineering and Business Intelligence*, vol. 9, pp. 253-263, 2023.
- [39] Quang-Linh Tran, Phan Thanh Dat Le, and Trong-Hop Do. 2022. Aspect-based Sentiment Analysis for Vietnamese Reviews about Beauty Product on E-commerce Websites. In *Proceedings of the 36th Pacific Asia Conference on Language, Information and Computation*, pages 767–776, Manila, Philippines. Association for Computational Linguistics
- [40] Hakim, F., & Dewi, K. (2024). Analisis Sentimen Berbasis Aspek Terhadap Produk Kecantikan Menggunakan Neighbor Weighted K-Nearest Neighbor. *Komputa : Jurnal Ilmiah Komputer Dan Informatika*, 13(1), 1-10. <https://doi.org/10.34010/komputa.v13i1.9437>
- [41] CLARA, Anggitha Yohana; ADIWIJAYA, Adiwijaya; PURBOLAKSONO, Mahendra Dwifabri. Aspect based sentiment analysis on beauty product review using random forest. *Journal of Data Science and Its Applications*, 2020, 3.2: 67-77.
- [42] ARTHAMEVIA, Nadira Putri, et al. Aspect-Based Sentiment Analysis in Beauty Product Reviews Using TF-IDF and SVM Algorithm. In: *2021 9th International Conference on Information and Communication Technology (ICoICT)*. IEEE, 2021. p. 197-201.
- [43] MEI, Ng Chin; TIUN, Sabrina; SASTRIA, Gita. Multi-Label Aspect-Sentiment Classification on Indonesian Cosmetic Product Reviews with IndoBERT Model. *International Journal of Advanced Computer Science & Applications*, 2024, 15.11.
- [44] Ho, Thanh & Bui, Hien & Kim, Phung. (2023). A hybrid model for aspect-based sentiment analysis on customer feedback: research on the mobile commerce sector in Vietnam. *International Journal of Advances in Intelligent Informatics*. 9. 273. 10.26555/ijain.v9i2.976.

- [45] S. Saadah, K. M. Auditama, A. A. Fattahila, F. I. Amorokhman, A. Aditsania dan A. A. Rohmawati, "Implementation of BERT, IndoBERT, and CNN-LSTM in Classifying Public Opinion about COVID-19 Vaccine in Indonesia," *Jurnal RESTI (Rekayasa Sistem dan Teknologi Informasi)*, vol. 6, pp. 648-655, 2022.
- [46] O. Alqaryouti, N. Siyam, A. A. Monem dan K. Shaalan, "Aspect-based sentiment analysis using smart government review data," *Applied Computing and Informatics*, vol. 20, pp. 142-161, 2024.
- [47] D. Ali, M. M. S. Missen dan M. Husnain, "Multiclass Event Classification from Text," *Scientific Programming*, pp. 1-15, 2021.
- [48] K. Wabang, O. D. Nurhayati dan F. , "Application of The Naïve Bayes Classifier Algorithm to Classify Community Complaints," *JURNAL RESTI (Rekayasa Sistem dan Teknologi Informasi)*, 2021.