

DAFTAR PUSTAKA

- Ahmad, M., Aftab, S., Muhammad, S. S., Ahmad, S., 2017., Machine Learning Techniques for Sentiment Analysis: A Review., *International Journal of Computer Applications*, Vol. 139 – No.11.
- Aliyah, S., N., Ardhito, W., Y., Akbar, S., A., Jamal, A., 2018., Colloquial Indonesian Lexicon, *IEEE 2018 International Conference on Asian Language Processing (IALP)*, 226–229.
- Alqaryouti, O., Siyam, N., Abdel, M., A., & Shaalan, K., 2024., Aspect-based sentiment analysis using smart government review data, *Applied Computing and Informatics*, Vol 20(1/2), 142–161.
- Amplayo, R. K., Bražinskas, A., Suhara, Y., Wang, X., Liu, B., 2022., Beyond Opinion Mining: Summarizing Opinions of Customer Reviews, *Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 3447-3450).
- Amudala, P. R., 2022, Data Quality Management for Effective Machine Learning and AI Modelling, Best Practices and Emerging Trends. *International Research Journal of Innovations in Engineering and Technology*, Vol. 06(12), 327–340.
- Assiri, A., Gumaiei, A., Mehmood, F., Abbas, T., Ullah, S., 2024., DeBERTa-GRU: Sentiment Analysis for Large Language Model, *Computers, Materials & Continua*, Vol. 79(3), 4219–4236.
- Brauwere, G., Frasincar, F., 2023., A Survey on Aspect-Based Sentiment Classification, *ACM Computing Surveys*, Vol. 55(4), 1–37.
- Chen, W., Rabhi, F., Liao, W., Al-Qudah, I., 2023., Leveraging State-of-the-Art Topic Modeling for News Impact Analysis on Financial Markets: A Comparative Study. *Electronics*, Vol. 12(12), 2605.
- Chumakov, S., Kovantsev, A., Surikov, A., 2023., Generative approach to Aspect Based Sentiment Analysis with GPT Language Models. *Procedia Computer Science*, Vol. 229, 284–293.

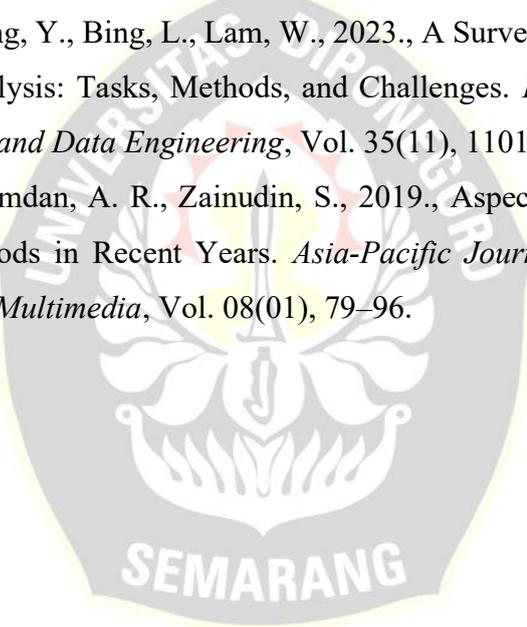
- Cui, J., Wang, Z., Ho, S.-B., Cambria, E., 2023., Survey on sentiment analysis: Evolution of research methods and topics. *Artificial Intelligence Review*, Vol. 56(8), 8469–8510.
- Devlin, J., Chang, M.-W., Lee, K., Toutanova, K., 2019., BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding. *Proceedings of the 2019 conference of the North American chapter of the association for computational linguistics: human language technologies*, Vol. 1 (long and short papers) (pp. 4171-4186).
- Do, H. H., Prasad, P., Maag, A., Alsadoon, A., 2019., Deep Learning for Aspect-Based Sentiment Analysis: A Comparative Review. *Expert Systems with Applications*, Vol. 118, 272–299.
- Elifneh, Y. W., Goulap, J. B., Girma, Y., 2020., Customers' Satisfaction in ATM Service—Empirical Evidence from the Leading Bank in Ethiopia. *International Journal of Engineering and Management Research*, Vol. 10(01), 126–134.
- Fahmy, A. M., 2023., Confusion Matrix in Three-class Classification Problems: A Step-by-Step Tutorial. *Journal of Engineering Research*, Vol. 7(1), 0–0.
- Grootendorst, M., 2022., BERTopic: Neural topic modeling with a class-based TF-IDF procedure, *arXiv*, (No. arXiv:2203.05794).
- Hariri, R. H., Fredericks, E. M., Bowers, K. M., 2019., Uncertainty in big data analytics: Survey, opportunities, and challenges. *Journal of Big Data*, Vol. 6(1), 44.
- Heinonen, K., Strandvik, T., Voima, P., 2013., Customer dominant value formation in service. *European Business Review*, Vol. 25(2), 104–123.
- Hidayati, N. N., Shaleha, S., 2024., BERTopic Analysis of Indonesian Biodiversity Policy on Social Media, *ECTI Transactions on Computer and Information Technology (ECTI-CIT)*, Vol. 18(3), 260-271.
- Hossain, Q., Yasmin, F., Biswas, T. R., Asha, N. B., 2024., Data-Driven Business Strategies: A Comparative Analysis of Data Science Techniques in Decision-Making, *Scholars Journal of Economics, Business and Management*, Vol. 11(09), 257–263.

- Hu, Q., Zhang, L., Zhang, W., Zhang, S., 2020., Empirical Study on the Evaluation Model of Public Satisfaction With Local Government Budget Transparency: A Case From China. *Sage Open*, Vol. 10(2), 2158244020924064.
- Kaur, A., Wallace, J. R., 2024., Moving Beyond LDA: A Comparison of Unsupervised Topic Modelling Techniques for Qualitative Data Analysis of Online Communities, *arXiv* (No. arXiv:2412.14486).
- Koto, F., Rahimi, A., Lau, J. H., Baldwin, T., 2020., IndoLEM and IndoBERT: A Benchmark Dataset and Pre-trained Language Model for Indonesian NLP, *Proceedings of the 28th International Conference on Computational Linguistics*, 757–770.
- Koto, F., Rahmaningtyas, G. Y., 2017., Inset lexicon: Evaluation of a word list for Indonesian sentiment analysis in microblogs. *International Conference on Asian Language Processing (IALP)*, 391–394.
- Liu, B., 2010. Sentiment Analysis and Subjectivity. *Handbook of natural language processing*, 2(2010), 627-666.
- Liu, Y., Ott, M., Goyal, N., Du, J., Joshi, M., Chen, D., Levy, O., Lewis, M., Zettlemoyer, L., & Stoyanov, V., 2019., RoBERTa: A Robustly Optimized BERT Pretraining Approach, *arXiv*. (No. arXiv:1907.11692).
- McLeod, A., Pippin, S., Wong, J. A., 2011., Revisiting the Likert scale: Can the fast form approach improve survey researchc. *International Journal of Behavioural Accounting and Finance*, Vol. 2(3/4), 310.
- Meaney, C., Escobar, M., Stukel, T. A., Austin, P. C., 2022., Comparison of Methods for Estimating Temporal Topic Models From Primary Care Clinical Text Data: Retrospective Closed Cohort Study, *JMIR medical informatics*, Vol. 10(12), e40102.
- Min, B., Ross, H., Sulem, E., Veyseh, A. P. B., Nguyen, T. H., Sainz, O., Agirre, E., Heinz, I., Roth, D., 2021., Recent Advances in Natural Language Processing via Large Pre-Trained Language Models: A Survey, *ACM Computing Surveys*, Vol. 56(2), pp.1-40.

- Minaee, S., Kalchbrenner, N., Cambria, E., Nikzad, N., Chenaghlu, M., Gao, J., 2021., Deep Learning Based Text Classification: A Comprehensive Review, *ACM computing surveys (CSUR)*, Vol. 54(3), pp.1-40.
- Mohammad, S., 2016., A Practical Guide to Sentiment Annotation: Challenges and Solutions. *Proceedings of the 7th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis*, 174–179.
- Mudinas, A., Zhang, D., Levene, M., 2012., Combining lexicon and learning based approaches for concept-level sentiment analysis, *Proceedings of the First International Workshop on Issues of Sentiment Discovery and Opinion Mining*, 1–8.
- Nabiilah, G. Z., Prasetyo, S. Y., Izdihar, Z. N., Girsang, A. S., 2023., BERT base model for toxic comment analysis on Indonesian social media. *Procedia Computer Science*, Vol. 216, 714–721.
- Nanli, Z., Ping, Z., Weiguo, L., Meng, C., 2012., Sentiment analysis: A literature review. 2012 International Symposium on Management of Technology (ISMOT), 572–576.
- Nugroho, K. S., Sukmadewa, A. Y., Wuswilahaken D., W., H., Bachtiar, F. A., Yudistira, N., 2021., BERT Fine-Tuning for Sentiment Analysis on Indonesian Mobile Apps Reviews, *Proceedings of the 6th International Conference on Sustainable Information Engineering and Technology*, 258–264.
- Ogden, J., Lo, J., 2012., How meaningful are data from Likert scales? An evaluation of how ratings are made and the role of the response shift in the socially disadvantaged, *Journal of Health Psychology*, Vol. 17(3), 350–361.
- Pinto, L., E. B., 2023., An Integrated NPL Approach to Sentiment Analysis in Satisfaction Surveys, *arXiv*. (No. arXiv:2307.11771).
- Prager, J., 2006., Open-Domain Question–Answering. *Foundations and Trends® in Information Retrieval*, Vol. 1(2), 91–231.
- Rihaadatul'Aisy, N., Pamungkas, E. W., 2025, Sentiment Analysis of Indonesian News Texts Using IndoBERT and IndoRoBERTa, *International Conference on Smart Computing, IoT and Machine Learning (SIML)*, 1–6.

- Romero S. J. F., Jimber-del R. J. A., Ochoa R. M. S., Vergara R. A., 2022, Analysis of Citizen Satisfaction in Municipal Services, *Economies*, Vol. 10(9), 225.
- Sadia, A., Khan, F., Bashir, F., 2018., An Overview of Lexicon-Based Approach For Sentiment Analysis. *International Electrical Engineering Conference*. Karachi, Pakistan (pp. 1-6).
- Selvakumar, B., Lakshmanan, B., 2022., Sentimental analysis on user's reviews using BERT. *Materials Today: Proceedings*, 62, 4931–4935.
- Singgalen, Y., A., 2025., Performance Analysis of IndoBERT for Sentiment Classification in Indonesian Hotel Review Data, *Journal of Information System Research*, Vol. 6(2), 976-986.
- Sun, C., Huang, L., Qiu, X., 2019., Utilizing BERT for Aspect-Based Sentiment Analysis via Constructing Auxiliary Sentence, *arXiv* (No. arXiv:1903.09588).
- Tang, D., Qin, B., Feng, X., Liu, T., 2016., Effective LSTMs for Target-Dependent Sentiment Classification, *the 26th international conference on computational linguistics: technical papers* (pp. 3298-3307).
- Uliniansyah, M. T., Budi, I., Nurfadhilah, E., Afra, D. I. N., Santosa, A., Latief, A. D., Jarin, A., Gunarso, Jiwanggi, M. A., Hidayati, N. N., Fajri, R., Suryono, R. R., Pebiana, S., Shaleha, S., Ramdhani, T. W., Sampurno, T., 2024., Twitter dataset on public sentiments towards biodiversity policy in Indonesia. *Data in Brief*, 52, p. 109890.
- Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, L., Polosukhin, I., 2023., Attention Is All You Need, *Advances in neural information processing systems*, Vol. 30.
- Vishal, A., K., Sonawane, S., 2016., Sentiment Analysis of Twitter Data: A Survey of Techniques. *International Journal of Computer Applications*, Vol. 139(11), 5–15.
- Widarmanti, T., Widodo, M. P., Ramadhani, D. P., Danlami, M., 2022., Text Emotion Detection: Discover the Meaning Behind YouTube Comments Using Indo RoBERTa. *International Conference on Advanced Creative Networks and Intelligent Systems (ICACNIS)*, 1–6.

- Wilie, B., Vincentio, K., Winata, G. I., Cahyawijaya, S., Li, X., Lim, Z. Y., Soleman, S., Mahendra, R., Fung, P., Bahar, S., Purwarianti, A., 2020., IndoNLU: Benchmark and Resources for Evaluating Indonesian Natural Language Understanding, *arXiv* (No. arXiv:2009.05387).
- Yulianti, E., Nissa, N. K., 2024., ABSA of Indonesian customer reviews using IndoBERT: Single- sentence and sentence-pair classification approaches. *Bulletin of Electrical Engineering and Informatics*, Vol. 13(5), 3579–3589.
- Yusuf, Y., Taufik, M., 2017., Sistem Informasi Pengukuran Indeks Kepuasan Masyarakat Terhadap Pelayanan Publik Pada Kabupaten Grobogan Berbasis Web. *TRANSISTOR Elektro dan Informatika*, Vol. 2(1) pp.40-49.
- Zhang, W., Li, X., Deng, Y., Bing, L., Lam, W., 2023., A Survey on Aspect-Based Sentiment Analysis: Tasks, Methods, and Challenges. *IEEE Transactions on Knowledge and Data Engineering*, Vol. 35(11), 11019–11038.
- Zohreh M., Z. M., Hamdan, A. R., Zainudin, S., 2019., Aspect-Based Sentiment Analysis Methods in Recent Years. *Asia-Pacific Journal of Information Technology & Multimedia*, Vol. 08(01), 79–96.



SEKOLAH PASCASARJANA