

## DAFTAR PUSTAKA

- Abidin, M. I., & Pamungkas, E. W. (2025). Analisis Sentimen Terhadap Timnas Indonesia Di Piala Asia 2023 Dengan Model *Transformer* Berbahasa Indonesia. *Rabit : Jurnal Teknologi Dan Sistem Informasi Univrab*, 10(2), 482–496. <https://doi.org/10.36341/rabit.v10i2.6142>
- Akgül, İ. (2023). Activation functions used in artificial neural networks. In Ç. Özalp (Ed.), *Academic studies in engineering* (pp. 41–58). Gece Kitaplığı.
- Akil, I. (2023). Komparasi Fungsi Aktivasi Neural Network Pada Data Time Series. *Inti Nusa Mandiri*, 18(1), 78–83. <https://doi.org/10.33480/inti.v18i1.4288>
- Alafwan, B., Siallagan, M., & Putro, U. S. (2023). Comments analysis on social media: A review. *EAI Endorsed Transactions on Scalable Information Systems*, 10(6). <https://doi.org/10.4108/eetsis.3843>
- Alawneh, H., Hasasneh, A., & Maree, M. (2024). On the Utilization of Emoji Encoding and Data Preprocessing with a Combined CNN-LSTM Framework for Arabic Sentiment Analysis. *Modelling*, 5(4), 1469–1489. <https://doi.org/10.3390/modelling5040076>
- Al-Hussaeni, K., Sameer, M., & Karamitsos, I. (2023). The Impact of Data Pre-Processing on Hate Speech Detection in a Mix of English and Hindi–English (Code-Mixed) Tweets. *Applied Sciences (Switzerland)*, 13(19). <https://doi.org/10.3390/app131911104>
- Amien, M. (2023). *Sejarah dan perkembangan teknik natural language processing (NLP) bahasa Indonesia: Tinjauan tentang sejarah, perkembangan teknologi, dan aplikasi NLP dalam bahasa Indonesia* (Working paper). arXiv. <https://arxiv.org/abs/2304.02746>

- Af'idah, D. I., Anggraeni, P. D., Rizki, M., Setiawan, A. B., & Handayani, S. F. (2023). *Aspect-based sentiment analysis for Indonesian tourist attraction reviews using Bidirectional Long Short-Term Memory*. *JUITA: Jurnal Informatika*, 11(1), 27–36. <https://doi.org/10.30595/juita.v11i1.15341>
- Anggraini, D., Rahmawati, S., & Kurniawan, R. (2024). Natural Language Processing For Automatic Sentiment Analysis In Social Media Data. *International Journal of Information Engineering and Science*, 1(1), 16–19. <https://doi.org/10.62951/ijies.v1i2.54>
- Antariksa, M. D. S., Sugiharto, A., & Surarso, B. (2025). BERT Model Fine-tuned for Scientific Document Classification and Recommendation. *Jurnal RESTI*, 9(4), 754–764. <https://doi.org/10.29207/resti.v9i4.6789>
- Avlonitou, C., & Papadaki, E. (2024). *The role of social media messages in cultural communication: The case study of an Instagram reel*. *Online Journal of Communication and Media Technologies*, 14(2), 1–20. <https://doi.org/10.30935/ojcm/14291>
- Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D. M., Wu, J., Winter, C., Hesse, C., Chen, M., Sigler, E., Litwin, M., Gray, S., Chess, B., Clark, J., Berner, C., McCandlish, S., Radford, A., Sutskever, I., & Amodei, D. (2020). *Language models are few-shot learners*. In *Advances in Neural Information Processing Systems (NeurIPS 33)*. arXiv. <https://doi.org/10.48550/arXiv.2005.14165>

- Budiman, B., Alamsyah, N., & Alamsyah, R. Y. R. (2024). Activation Function In Lstm For Improved Forecasting Of Closing Natural Gas Stock Prices. *JITK (Jurnal Ilmu Pengetahuan Dan Teknologi Komputer)*, 10(1), 100–107. <https://doi.org/10.33480/jitk.v10i1.5258>
- Devlin, J., Chang, M.-W., Lee, K., Google, K. T., & Language, A. I. (2018). *BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding*. <https://github.com/tensorflow/tensor2tensor> (website)
- Dzakwan Bintang Lazuardi, M., & Noor Fatyanosa, T. (2025). Klasifikasi Emosi Multikelas Berbasis Teks Bahasa Indonesia Menggunakan IndoRoBERTa. *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer* (Vol. 9, Issue 9). <http://j-ptiik.ub.ac.id>
- Helmiyah, S., & Pramestiawan, R. (2025). Analisis komparatif algoritma machine learning dengan metrik akurasi, presisi, recall, dan F1-Score pada dataset kacang kering. *Jurnal Ilmu Komputer dan Teknologi*, 6(3), 152–159. <https://doi.org/10.35960/ikomti.v6i3.2031>
- Hua, Y. C., Denny, P., Wicker, J., & Taskova, K. (2024). A systematic review of aspect-based sentiment analysis: domains, methods, and trends. *Artificial Intelligence Review*, 57(11). <https://doi.org/10.1007/s10462-024-10906-z>
- Juarto, B. (2023). Indonesian news classification using IndoBERT. *International Journal of Intelligent Systems and Applications in Engineering*, 11(2), 454–460. <http://www.ijisae.org>
- Khairunnisa, S., Adiwijaya, A., & Al Faraby, S. (2021). Pengaruh Text Preprocessing terhadap Analisis Sentimen Komentar Masyarakat pada Media Sosial Twitter (Studi Kasus Pandemi COVID-19). *Jurnal Media*

Informatika                      Budidarma,                      5(2),                      406–414.  
<https://doi.org/10.30865/mib.v5i2.2835>

Li, C., Zhang, D., & Wang, J. (2024). LLM-assisted labeling function generation for semantic type detection. In *Proceedings of the 2024 VLDB Workshop: The 1st International Workshop on Data-driven AI (DATAI)*.  
<https://arxiv.org/abs/2408.16173>

Liang, S., & Wolfe, J. (2022). Getting a feel of Instagram Reels: The effects of posting format on online engagement. *Journal of Student Research*, 11(4).  
<https://doi.org/10.47611/jsrhs.v11i4.3600>

Owen, L. (2022). *NLP\_bahasa\_resources* (Data set). GitHub.  
[https://github.com/louisowen6/NLP\\_bahasa\\_resources](https://github.com/louisowen6/NLP_bahasa_resources)

Mansur, Z., Omar, N., Tiun, S., & Alshari, E. M. (2024). A normalization model for repeated letters in social media hate speech text based on rules and spelling correction. *PLOS ONE*, 19(3), e0299652.  
<https://doi.org/10.1371/journal.pone.0299652>

Mosbach, M., Andriushchenko, M., & Klakow, D. (2021). On the stability of fine-tuning BERT: Misconceptions, explanations, and strong baselines. In *Proceedings of the 9th International Conference on Learning Representations (ICLR 2021)*. <https://arxiv.org/abs/2006.04884>

Narayanasamy, S. K., Hu, Y. C., Qaisar, S. M., & Srinivasan, K. (2022). Effective Preprocessing and Normalization Techniques for COVID-19 Twitter Streams with POS Tagging via Lightweight Hidden Markov Model. *Journal of Sensors*, 2022. <https://doi.org/10.1155/2022/1222692>

- Palomino, M. A., & Aider, F. (2022). Evaluating the Effectiveness of Text Pre-Processing in Sentiment Analysis. *Applied Sciences (Switzerland)*, 12(17). <https://doi.org/10.3390/app12178765>
- Pamungkas, I., Sumadi, S., & Alam, S. (2022). Studi komparasi fungsi aktivasi sigmoid biner, sigmoid bipolar dan linear pada jaringan saraf tiruan dalam menentukan warna RGB menggunakan MATLAB. *Serambi Engineering*, 7(4), 3749–3758. <https://doi.org/10.32672/jse.v7i4.4776>
- Perdana, S. A. P., Bharata Aji, T., & Ferdiana, R. (2021). Aspect category classification dengan pendekatan machine learning menggunakan dataset Bahasa Indonesia. *Jurnal Nasional Teknik Elektro dan Teknologi Informasi*, 10(3), 229–235. <https://doi.org/10.22146/jnteti.v10i3>
- Perwira, R. I., Permadi, V. A., Purnamasari, D. I., & Agusdin, R. P. (2025). Domain-Specific Fine-Tuning of IndoBERT for Aspect-Based Sentiment Analysis in Indonesian Travel User-Generated Content. *Journal of Information Systems Engineering and Business Intelligence*, 11(1), 30–40. <https://doi.org/10.20473/jisebi.11.1.30-40>
- Pusung, E. M., & Dewi, I. N. (2025). Optimasi RoBERTa dengan Hyperparameter Tuning untuk Deteksi Emosi berbasis Teks. *Jurnal Nasional Teknologi Dan Sistem Informasi*, 10(3), 240–248. <https://doi.org/10.25077/teknosi.v10i3.2024.240-248>
- Qarah, F., & Alsanoosy, T. (2024). A Comprehensive Analysis of Various Tokenizers for Arabic Large Language Models. *Applied Sciences (Switzerland)*, 14(13). <https://doi.org/10.3390/app14135696>

- Sathyanarayanan, S. (2024). Confusion Matrix-Based Performance Evaluation Metrics. *African Journal of Biomedical Research*, 4023–4031. <https://doi.org/10.53555/ajbr.v27i4s.4345>
- Schmidgall, S., Achterberg, J., Miconi, T., Kirsch, L., Ziaei, R., Hajiseyedrazi, S. P., & Eshraghian, J. (2023). *Brain-inspired learning in artificial neural networks: a review*. <http://arxiv.org/abs/2305.11252>
- Sekolah Tinggi Ilmu Ekonomi Wiyatamandala, M. (2025). Ciptaan disebarluaskan di bawah Lisensi Creative Commons Atribusi 4.0 Internasional. Analisis Tren Penggunaan UGC di Indonesia dan Dampaknya Terhadap Strategi Pemasaran Bisnis Liestyaningrum rahmadhani Wisnu Putri. *Journal of Information System, Applied, Management, Accounting and Research*, 9(1), 132–141. <https://doi.org/10.52362/jisamar.v9i1.1713>
- Shatravin, V., Shashev, D., & Shidlovskiy, S. (2023). Implementation of the SoftMax Activation for Reconfigurable Neural Network Hardware Accelerators. *Applied Sciences (Switzerland)*, 13(23). <https://doi.org/10.3390/app132312784>
- Siino, M., Tinnirello, I., & La Cascia, M. (2024). Is text preprocessing still worth the time? A comparative survey on the influence of popular preprocessing methods on *Transformers* and traditional classifiers. *Information Systems*, 121. <https://doi.org/10.1016/j.is.2023.102342>
- Syahputra, M. E., Kemala, A. P., & Ramdhan, D. (2023). Clickbait detection in Indonesia headline news using IndoBERT and RoBERTa. *Jurnal Riset Informatika*, 5(3), 425–430. <https://doi.org/10.34288/jri.v5i4.237>

- Tan, Z., Li, D., Wang, S., Beigi, A., Jiang, B., Bhattacharjee, A., Karami, M., Li, J., Cheng, L., & Liu, H. (2024). Large language models for data annotation and synthesis: A survey. In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024)* (pp. 930–957). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2024.emnlp-main.54>
- Turangan, A. D. P., Jacobus, A., & Kambey, F. D. (2025). Implementation of feature extraction using BERT in aspect-based sentiment analysis. *Jurnal EECCIS*, 19(2), 99–104. <https://doi.org/10.21776/jeeccis.v19i2.1770>
- Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, L., & Polosukhin, I. (2017). Attention is all you need (Working paper) *arXiv*. <https://arxiv.org/abs/1706.03762>