

DAFTAR PUSTAKA

- [1] Goodstats.id, “Indonesia Masuk Jajaran Pengguna *YouTube* Terbanyak di Dunia 2025.” Accessed: Mar. 15, 2025. [Online]. Available: <https://goodstats.id/article/indonesia-masuk-jajaran-pengguna-YouTube-terbanyak-di-dunia-2025-7Cvdz>
- [2] P. Prasajo, “Dampak Penggunaan Media Sosial Terhadap Perubahan Budaya Politik,” *Jurnal Kajian Ilmiah*, vol. 21, no. 2, pp. 209–218, May 2021, doi: 10.31599/jki.v21i2.590.
- [3] Daya Anagata Nusantara, “Daya Anagata Nusantara (Danantara).” 2025.
- [4] A. Firdaus, “EXPLAINED: What is Danantara, Indonesia’s new state investment body?,” *BenarNews*, Feb. 2025, [Online]. Available: <https://www.benarnews.org/english/news/indonesian/new-investment-agency-danantara-explained-02252025085910.html>
- [5] MPN Indonesia, “Pro Kontra Danantara: Benarkah Bisa Kelola Ribuan Triliun Rupiah demi Keuntungan Negara?,” MPN Indonesia, Mar. 2025, [Online]. Available: <https://mpnindonesia.com/berita/pro-kontra-danantara-benarkah-bisa-kelola-ribuan-triliun-rupiah-demi-keuntungan-negara/>
- [6] G. A. Buntoro, “Analisis Sentimen Calon Gubernur DKI Jakarta 2017 Di Twitter,” *Integer Journal*, vol. 2, no. 1, 2017, doi: [10.31284/j.integer.2017.v2i1.95](https://doi.org/10.31284/j.integer.2017.v2i1.95)
- [7] W. A. Anggraeni, F. Fahru Roji, and M. Alkautsar, “Analisis Sentimen Publik terhadap Kebijakan Insentif Perpajakan Dengan Pendekatan VADER (Valence Aware Dictionary And Sentiment Reasoner),” *Jurnal Proaksi*, vol. 10, no. 4, pp. 465–477, Oct. 2023, doi: 10.32534/jpk.v10i4.4732.
- [8] L. Yu, Y. Wu, J. Yang, and Y. Zhang, “Bullet Subtitle *Sentiment Classification* Based on Affective Computing and Ensemble Learning,” *Wireless Communications and Mobile Computing*, vol. 2021, no. 1, p. 5563104, 2021, doi: [10.1155/2021/5563104](https://doi.org/10.1155/2021/5563104).
- [9] M. Z. Rahman, Y. A. Sari, and N. Yulistira, “Analisis Sentimen Tweet COVID-19 menggunakan *Word Embedding* dan Metode *Long Short-Term Memory* (LSTM),” 2021. [Online]. Available: <http://j-ptiik.ub.ac.id>
- [10] R. Akbar, R. Santoso, and B. Warsito, “PREDIKSI TINGKAT TEMPERATUR KOTA SEMARANG MENGGUNAKAN METODE *LONG SHORT-TERM MEMORY* (LSTM),” *Jurnal Gaussian*, vol. 11, no. 4, pp. 572–579, Feb. 2023, doi: [10.14710/j.gauss.11.4.572-579](https://doi.org/10.14710/j.gauss.11.4.572-579).
- [11] F. W. Kurniawan and W. Maharani, “Indonesian Twitter *Sentiment* Analysis Using *Word2Vec*,” in *2020 International Conference on Data Science and Its Applications (ICoDSA)*, IEEE, Aug. 2020, pp. 1–6. doi: [10.1109/ICoDSA50139.2020.9212906](https://doi.org/10.1109/ICoDSA50139.2020.9212906).
- [12] A. Liyih, S. Anagaw, M. Yibeyin, and Y. Tehone, “*Sentiment* analysis of the Hamas-Israel war on *YouTube* comments using deep learning,” *Scientific Reports*, vol. 14, no. 1, p. 13647, Jun. 2024, doi: 10.1038/s41598-024-63367-3.

- [13] A. S. Nugroho and K. Nugroho, "Comparison of RNN and LSTM Algorithms Based on Fasttext *Embeddings* in *Sentiment Analysis* on the Merdeka Mengajar Platform," *sinkron*, vol. 9, no. 1, pp. 117–128, Jan. 2025, doi: 10.33395/sinkron.v9i1.14296.
- [14] W. Alosaimi *et al.*, "ArabBert-LSTM: improving Arabic *Sentiment* analysis based on transformer model and *Long Short-Term Memory*," *Frontiers in Artificial Intelligence*, vol. 7, Jul. 2024, doi: 10.3389/frai.2024.1408845.
- [15] P. Zahwa, S. Agustian, and F. Yanto, "IMPLEMENTASI BI-DIRECTIONAL LONG SHORT TERM MEMORY TERHADAP KLASIFIKASI SENTIMEN DI TWITTER PADA DATASET TERBATAS," 2025.
- [16] S. Debi Anita and N. Cahyono, "Penerapan Bi-Lstm dengan Optimizer ADAM dan *Word2Vec* Untuk Analisis Sentimen," 2024.
- [17] R. G. Purnasiwi, K. Kusrini, and M. Hanafi, "Analisis Sentimen Pada Review Produk Skincare Menggunakan *Word Embedding* dan Metode *Long Short-Term Memory* (LSTM)", *Innovative*, vol. 3, no. 2, pp. 11433–11448, Jun. 2023.
- [18] N. F. Basri and E. Utami, "Sistemasi: Jurnal Sistem Informasi Penerapan Model *Word2Vec* dan LSTM dalam Analisis Sentimen Ulasan Pengguna Mobile legends Application of *Word2Vec* and LSTM Models in Sentiment Analysis of Mobile Legends User Reviews," 2025. [Online]. Available: <http://sistemasi.ftik.unisi.ac.id>
- [19] D. Tri Hermanto, A. Setyanto, and E. T. Luthfi, "Algoritma LSTM-CNN untuk Sentimen Klasifikasi dengan *Word2Vec* pada Media Online LSTM-CNN Algorithm for Sentiment Clasification with *Word2Vec* On Online Media".
- [20] W. Widayat, "Analisis Sentimen Movie Review menggunakan *Word2Vec* dan metode LSTM Deep Learning," *JURNAL MEDIA INFORMATIKA BUDIDARMA*, vol. 5, no. 3, p. 1018, Jul. 2021, doi: 10.30865/mib.v5i3.3111.
- [21] M. Aasya Aldin Islamy and P. Pandu Adikara, "Analisis Sentimen IMDB Movie Reviews menggunakan Metode *Long Short-Term Memory* dan FastText," 2022. [Online]. Available: <http://j-ptiik.ub.ac.id>
- [22] M. V. Shyahrin, Y. Sibaroni, and D. Puspandari, "Penerapan Metode *Long Short-Term Memory* dan *Word2Vec* dalam Analisis Sentimen Ulasan pada Aplikasi Ferizy," *Techno.Com*, vol. 22, no. 4, pp. 833–842, Nov. 2023, doi: 10.33633/tc.v22i4.9205.
- [23] D. Intan Af *et al.*, "Pengaruh Parameter *Word2Vec* terhadap Performa Deep Learning pada Klasifikasi Sentimen," vol. 6, no. 3, 2021.
- [24] M. Z. Rahman, Y. A. Sari, and N. Yudistira, "Analisis Sentimen Tweet COVID-19 menggunakan *Word Embedding* dan Metode *Long Short-Term Memory* (LSTM)," 2021. [Online]. Available: <http://j-ptiik.ub.ac.id>
- [25] G. Pajar Pratama, "YouTube itu apa sih?" Accessed: Mar. 15, 2025. [Online]. Available: <https://slbn1karangasem.baliprov.go.id/YouTube-itu-apa-sih/>
- [26] K. Traynor, "YouTube: Online Video and Participatory Culture," *European Journal of Communication*, vol. 35, no. 4, pp. 419–423, Aug. 2020, doi: 10.1177/0267323120935319.
- [27] P. Arsi and R. Waluyo, "Analisis Sentimen Wacana Pemindahan Ibu Kota Indonesia Menggunakan Algoritma Support Vector Machine (SVM)," *Jurnal*

- Teknologi Informasi dan Ilmu Komputer*, vol. 8, no. 1, p. 147, Feb. 2021, doi: 10.25126/jtiik.0813944.
- [28] M. Taboada, "Sentiment Analysis: An Overview from Linguistics," *Annual Review of Linguistics*, vol. 2. Annual Reviews Inc., pp. 325–347, Jan. 14, 2016. doi: 10.1146/annurev-linguistics-011415-040518.
- [29] C. Dhaoui, C. Webster, and L. Tan, "Social media sentiment analysis: *lexicon* versus machine learning," *Journal of Consumer Marketing*, vol. 34, p. 0, Jul. 2017, doi: 10.1108/JCM-03-2017-2141.
- [30] "A Combination of *Lexicon* and Machine Learning Approaches for Sentiment Analysis on Facebook," *Journal of System and Management Sciences*, Sep. 2020, doi: 10.33168/JSMS.2020.0310.
- [31] A. A. Hania, "Mengenal Artificial Intelligence, Machine Learning, Neural Network, dan *Deep Learning*," [Online]. Available: <https://www.researchgate.net/publication/320395378>
- [32] A. Raichur, N. Lee, and R. Moieni, "A Natural Language Processing Approach to Promote Gender Equality: Analysing the Progress of Gender-Inclusive Language on the Victorian Government Website," *Open Journal of Social Sciences*, vol. 11, no. 09, pp. 513–529, 2023, doi: 10.4236/jss.2023.119033.
- [33] A. Wijoyo, A. Y. Saputra, S. Ristanti, R. Sya'ban, M. Amalia, and R. Febriansyah, "Pembelajaran Machine Learning".
- [34] A. Roihan, P. A. Sunarya, and A. S. Rafika, "Pemanfaatan *Machine learning* dalam Berbagai Bidang: *Review paper*," *IJCIT (Indonesian Journal on Computer and Information Technology)*, vol. 5, no. 1, May 2020, doi: 10.31294/ijcit.v5i1.7951.
- [35] C. Janiesch, P. Zschech, and K. Heinrich, "*Machine learning* and deep learning," *Electronic Markets*, vol. 31, no. 3, pp. 685–695, Sep. 2021, doi: 10.1007/s12525-021-00475-2.
- [36] A. A. Soebroto, "Buku Ajar AI, Machine Learning & *Deep Learning*," 2019. [Online]. Available: <https://www.researchgate.net/publication/348003841>
- [37] Dr. P. Kaushik, "*Deep Learning* and *Machine learning* to Diagnose Melanoma," *International Journal of Research in Science and Technology*, vol. 13, no. 01, pp. 58–72, 2023, doi: 10.37648/ijrst.v13i01.008.
- [38] M. M. Mijwil, D. S. Mutar, E. Sh. Mahmood, M. Gök, S. Uzun, and R. Doshi, "*Deep Learning* Applications and Their Worth: A Short Review," *Asian Journal of Applied Sciences*, vol. 10, no. 5, Nov. 2022, doi: 10.24203/ajas.v10i5.7078.
- [39] J. A. Mellia *et al.*, "Natural Language Processing in Surgery," *Annals of Surgery*, vol. 273, no. 5, pp. 900–908, May 2021, doi: 10.1097/SLA.0000000000004419.
- [40] E. D. Liddy, "Natural Language Processing," 2001. [Online]. Available: <https://surface.syr.edu/istpub>
- [41] D. Khurana, A. Koli, K. Khatter, and S. Singh, "Natural language processing: state of the art, current trends and challenges," *Multimedia Tools and Applications*, vol. 82, no. 3, pp. 3713–3744, Jan. 2023, doi: 10.1007/s11042-022-13428-4.

- [42] S. Srinivasan, Ed., Guide to Big Data Applications, vol. 26. in Studies in Big Data, vol. 26. Cham: Springer International Publishing, 2018. doi: 10.1007/978-3-319-53817-4.
- [43] MTI BINUS University, “Word Embedding dengan Word2Vec.” 2020. [Online]. Available: <https://mti.binus.ac.id/2020/11/17/word-embedding-dengan-Word2Vec/>
- [44] D. S. Asudani, N. K. Nagwani, and P. Singh, “Impact of Word Embedding models on text analytics in deep learning environment: a review,” *Artificial Intelligence Review*, vol. 56, no. 9, pp. 10345–10425, Sep. 2023, doi: 10.1007/s10462-023-10419-1.
- [45] TensorFlow Text Team, “Word2Vec Tutorial.” 2023. [Online]. Available: <https://www.tensorflow.org/text/tutorials/Word2Vec>
- [46] X. Zhang and L. Zhang, “The comparison and analysis of Skip-gram and CBOW in creating financial Sentimental dictionary,” *Applied and Computational Engineering*, vol. 44, no. 1, pp. 56–67, Mar. 2024, doi: 10.54254/2755-2721/44/20230155.
- [47] Y. Tang, “Research on Word Vector Training Method Based on Improved Skip-gram Algorithm,” *Advances in Multimedia*, vol. 2022, pp. 1–8, Feb. 2022, doi: 10.1155/2022/4414207.
- [48] T. Mikolov, I. Sutskever, K. Chen, G. Corrado, and J. Dean, “Distributed Representations of Words and Phrases and their Compositionality.” 2013. [Online]. Available: <https://arxiv.org/abs/1310.4546>
- [49] B. Chiu, “A neural classification method for supporting the creation of BioVerbNet,” *Journal of Biomedical Semantics*, vol. 10, no. 1, p. 2, Dec. 2019, doi: 10.1186/s13326-018-0193-x.
- [50] C. Gao, A. Rios-Navarro, X. Chen, S.-C. Liu, and T. Delbruck, “EdgeDRNN: Recurrent Neural Network Accelerator for Edge Inference,” *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, vol. 10, no. 4, pp. 419–432, Dec. 2020, doi: 10.1109/JETCAS.2020.3040300.
- [51] “The Unreasonable Effectiveness of Recurrent Neural Networks,” Jul. 2015.
- [52] E. Omara, M. Mosa, and N. Ismail, “Applying Recurrent Networks For Arabic Sentiment Analysis,” *Menoufia Journal of Electronic Engineering Research*, vol. 31, no. 1, pp. 21–28, Jan. 2022, doi: 10.21608/mjeer.2022.218776.
- [53] M. Wildan Putra Aldi and A. Aditsania, “Analisis dan Implementasi Long Short Term Memory Neural Network untuk Prediksi Harga Bitcoin.”
- [54] Dida, “What is an LSTM Neural Network?,” dida.do. Accessed: Mar. 16, 2025. [Online]. Available: <https://dida.do/what-is-an-lstm-neural-network>
- [55] N. Dropka, S. Ecklebe, and M. Holena, “Real Time Predictions of VGF-GaAs Growth Dynamics by LSTM Neural Networks,” *Crystals*, vol. 11, no. 2, p. 138, Jan. 2021, doi: 10.3390/cryst11020138.
- [56] Trivusi, “Mengenal Algoritma Long Short Term Memory (LSTM).” 2022. [Online]. Available: <https://www.trivusi.web.id/2022/07/algoritma-lstm.html>
- [57] V. R. Hananto, *Buku Ajar Kecerdasan Bisnis*. 2017.

- [58] Miryam Clementine and Arum, “Prediksi Churn Nasabah Bank Menggunakan Klasifikasi Naïve Bayes dan ID3,” *Jurnal Processor*, vol. 17, no. 1, pp. 9–18, May 2022, doi: 10.33998/processor.2022.17.1.1170.
- [59] M. Dwison Alizah, A. Nugroho, U. Radiyah, W. Gata, P. I. Komputer, and N. Mandiri, “Sentimen Analisis Terkait Lockdown pada Sosial Media Twitter,” *IJSE-Indonesian Journal on Software Engineering*, vol. 6, no. 2, pp. 223–229, 2020.
- [60] R. Kyle Martin, A. Pareek, A. J. Krych, H. M. Kremers, and L. Engebretsen, “Machine learning in sports medicine: Need for improvement,” *Journal of ISAKOS*, vol. 6, no. 1. BMJ Publishing Group, pp. 1–2, Jan. 01, 2021. doi: 10.1136/jisakos-2020-000572.
- [61] M. A. Rosid, A. S. Fitriani, I. R. I. Astutik, N. I. Mulloh, and H. A. Gozali, “Improving *Text preprocessing* for Student Complaint Document *Classification* Using Sastrawi,” in *IOP Conference Series: Materials Science and Engineering*, Institute of Physics Publishing, Jul. 2020. doi: 10.1088/1757-899X/874/1/012017.
- [62] H. H. Mubaroroh, H. Yasin, and A. Rusgiyono, “ANALISIS SENTIMEN DATA ULASAN APLIKASI RUANGGURU PADA SITUS GOOGLE PLAY MENGGUNAKAN ALGORITMA NAÏVE BAYES CLASSIFIER DENGAN NORMALISASI KATA LEVENSHTAIN DISTANCE,” vol. 11, no. 2, pp. 248–257, 2022, [Online]. Available: <https://ejournal3.undip.ac.id/index.php/gaussian/>
- [63] D. Wahyudi and Y. Sibaroni, “*Deep Learning* for Multi-Aspect *Sentiment Analysis* of TikTok App using the RNN-LSTM Method,” *Building of Informatics, Technology and Science (BITS)*, vol. 4, no. 1, Jun. 2022, doi: 10.47065/bits.v4i1.1665.
- [64] M. Fluorida Fibrianda and A. Bhawiyuga, “Analisis Perbandingan Akurasi Deteksi Serangan Pada Jaringan Komputer Dengan Metode Naïve Bayes Dan Support *Vector Machine* (SVM),” 2018. [Online]. Available: <http://j-ptiik.ub.ac.id>
- [65] J. A. Hanley, “The Meaning and Use of the Area Under a Receiver Operating Characteristic (ROC) Curve,” *Radiology*, vol. 143, pp. 29–36, Jul. 1982, doi: 10.1148/radiology.143.1.7063747.
- [66] S. Sathyanarayanan, “*Confusion matrix*-Based Performance *Evaluation metrics*,” *African Journal of Biomedical Research*, pp. 4023–4031, Nov. 2024, doi: 10.53555/ajbr.v27i4s.4345.
- [67] J. A. Hanley, “The Meaning and Use of the Area Under a Receiver Operating Characteristic (ROC) Curve,” *Radiology*, vol. 143, pp. 29–36, Jul. 1982, doi: 10.1148/radiology.143.1.7063747.
- [68] G. Developers, “*Google Apps Script overview*.” 2021.
- [69] W. Muhammad, M. Mushtaq, K. N. Junejo, and M. Y. Khan, “SENTIMENT ANALYSIS OF PRODUCT REVIEWS IN THE ABSENCE OF LABELLED DATA USING SUPERVISED LEARNING APPROACHES,” *Malaysian Journal of Computer Science*, vol. 33, no. 2, pp. 118–132, Apr. 2020, doi: 10.22452/mjcs.vol33no2.3.
- [70] C. S. Khoo and S. B. Johnkhan, “*Lexicon*-based sentiment analysis: Comparative evaluation of six sentiment lexicons,” *Journal of Information Science*, vol. 44, no. 4, pp. 491–511, Aug. 2018, doi: 10.1177/0165551517703514.

- [71] M. Haselmayer and M. Jenny, "Sentiment analysis of political communication: combining a dictionary approach with crowdcoding," *Quality and Quantity*, vol. 51, no. 6, pp. 2623–2646, Nov. 2017, doi: 10.1007/s11135-016-0412-4.
- [72] B. Oner, O. Hakli, and F. D. Zengul, "A *text mining* and network analysis of topics and trends in major nursing research journals," *Nursing Open*, vol. 11, no. 1, Jan. 2024, doi: 10.1002/nop2.2050.
- [73] A. L. Fairuz, R. D. Ramadhani, and N. A. F. Tanjung, "Analisis Sentimen Masyarakat Terhadap COVID-19 Pada Media Sosial Twitter," *Journal of Dinda : Data Science, Information Technology, and Data Analytics*, vol. 1, no. 1, pp. 42–51, Feb. 2021, doi: 10.20895/dinda.v1i1.180.
- [74] M. I. A. Chandra and R. Yusuf, "VISUALISASI KATA KUNCI PEMBERITAAN PEMILU 2024 MENGGUNAKAN SPACY DAN WORDCLOUD ," *TEKNIMEDIA*, vol. 5, no. 1, pp. 41–46, Jun. 2024.
- [75] C. H. G. Ferreira et al., "On the dynamics of political discussions on Instagram: A network perspective," *Online Social Networks and Media*, vol. 25, Sep. 2021, doi: 10.1016/j.osnem.2021.100155.
- [76] J. Han, M. Kamber, J. Pei, and M. Kaufmann, "[DATA MINING: CONCEPTS AND TECHNIQUES 3RD EDITION] 2 Data Mining: Concepts and Techniques Third Edition."
- [77] W. E. Brown, K. Sung, D. M. Aleman, E. Moreno-Centeno, T. G. Purdie, and C. J. McIntosh, "Guided *undersampling* classification for automated radiation therapy quality assurance of prostate cancer treatment," *Medical Physics*, vol. 45, no. 4, pp. 1306–1316, Apr. 2018, doi: 10.1002/mp.12757.
- [78] N. Mohseni, H. Nematzadeh, E. Akbarib, and H. Motameni, "*Outlier* Detection in *Test Samples* using Standard Deviation and Unsupervised *Training Set* Selection," *International Journal of Engineering*, vol. 36, no. 1, pp. 119–129, 2023, doi: 10.5829/IJE.2023.36.01A.14.
- [79] G. Digonet, T. Lapole, G. Pouilloux, and U. Debarnot, "The effects of acute physical and cognitive exercises on sequential motor skill learning: An exploratory study," *PLOS One*, vol. 20, no. 7, p. e0327725, Jul. 2025, doi: 10.1371/journal.pone.0327725.
- [80] R. Kyle Martin, A. Pareek, A. J. Krych, H. M. Kremers, and L. Engebretsen, "Machine learning in sports medicine: Need for improvement," *Journal of ISAKOS*, vol. 6, no. 1. BMJ Publishing Group, pp. 1–2, Jan. 01, 2021. doi: 10.1136/jisakos-2020-000572.
- [81] Y. Chai, "Design and Implementation of English Intelligent Communication Platform Based on Similarity Algorithm," *Complexity*, vol. 2021, no. 1, Jan. 2021, doi: 10.1155/2021/5575417.
- [82] Y. Singh and P. Singh, "TensorFlow and *Deep Learning*," *Journal of Applied Science and Education (JASE)*, vol. 03, no. 005, pp. 1–14, 2023, doi: 10.54060/jase.v3i2.
- [83] R. Putra Kurniawan and S. Wahyu Iriananda, "ANALISIS SENTIMEN ULASAN APLIKASI LINKEDIN BERBASIS LEXICON DAN LONG SHORT-TERM MEMORY (LSTM)," 2025.

- [84] F. Koto, “InSet: Indonesia Sentiment *Lexicon*.” 2025.
- [85] louisowen6 “combined_slang_words.txt” Github.com. Accessed: Mar. 17 2025. [Online]. Available: https://raw.githubusercontent.com/louisowen6/NLP_bahasa_resources/master/combined_slang_words.txt
- [86] The Examples Book Team, “*Train, Validate, Test Split and Cross Validation*.” 2024. [Online]. Available: <https://the-examples-book.com/tools/data-modeling-cross-validation-train-valid-test>
- [87] J. Wira and G. Putra, “Pengenalan Konsep Pembelajaran Mesin dan *Deep learning* Edisi 1.4 (17 Agustus 2020).”

