

DAFTAR PUSTAKA

- Abdullah, A. O, Ali, M. A, Karabatak, M, dan Sengur, A, mar 2018, A comparative analysis of common YouTube comment spam filtering techniques. In *2018 6th International Symposium on Digital Forensic and Security (ISDFS)*, pages 1–5, Antalya, Turkey. IEEE. ISBN 978-1-5386-3449-3. doi: 10.1109/ISDFS.2018.8355315. URL <https://ieeexplore.ieee.org/document/8355315/>.
- Abinaya, R, Bertilla Niveda, E, dan Naveen, P, 2020, *Spam detection on social media platforms. 2020 7th International Conference on Smart Structures and Systems, ICSSS 2020*, pages 31–33. doi: 10.1109/ICSSS49621.2020.9201948.
- Agarwal, B, Ramampiaro, H, Langseth, H, dan Ruocco, M, 2018, *A deep network model for paraphrase detection in short text messages. Information Processing and Management*, 54(6):922–937. ISSN 03064573. doi: 10.1016/j.ipm.2018.06.005. URL <https://doi.org/10.1016/j.ipm.2018.06.005>.
- Aiyar, S dan Shetty, N. P, 2018, *N-Gram Assisted Youtube Spam Comment Detection. Procedia Computer Science*, 132:174–182. ISSN 18770509. doi: 10.1016/j.procs.2018.05.181. URL <https://linkinghub.elsevier.com/retrieve/pii/S1877050918309153>.
- Akilan, A, jun 2015, Text mining: Challenges and future directions. In *2nd International Conference on Electronics and Communication Systems, ICECS 2015*, pages 1679–1683. Institute of Electrical and Electronics Engineers Inc. ISBN 9781479972241. doi: 10.1109/ECS.2015.7124872.
- AL-Smadi, M, Jaradat, Z, AL-Ayyoub, M, dan Jararweh, Y, 2017, *Paraphrase identification and semantic text similarity analysis in Arabic news tweets using lexical, syntactic, and semantic features. Information Processing and Management*, 53(3):640–652. ISSN 03064573. doi: 10.1016/j.ipm.2017.01.002. URL <http://dx.doi.org/10.1016/j.ipm.2017.01.002>.
- Alam, T, Khan, A, dan Alam, F, 2020, Bangla text classification using transformers. In *arXiv*.
- Alias, N, Foozy, C. F. M, dan Ramli, S. N, 2019, *Video spam comment features selection using machine learning techniques. Indonesian Journal of Electrical*

Engineering and Computer Science, 15(2):1046–1053. ISSN 25024760. doi: 10.11591/ijeecs.v15.i2.pp1046-1053.

Alita, D, Priyanta, S, Rokhman, N, Zainal Abidin Pagaralam, J. H, Lampung, B, dan Utara Bulaksumur Kabupaten Sleman, S, oct 2019, *Analysis of Emoticon and Sarcasm Effect on Sentiment Analysis of Indonesian Language on Twitter*. *Journal of Information Systems Engineering and Business Intelligence*, 5(2):100–109. ISSN 2443-2555. doi: 10.20473/JISEBI.5.2.100-109. URL <https://e-journal.unair.ac.id/JISEBI/article/view/12101><http://creativecommons.org/licenses/by/4.0/>.

Allstars, 2021. *10 Artis Followers Terbanyak di Indonesia pada Instagram di 2021*. URL <https://www.allstars.id/blog/2021/09/23/artis-indonesia-dengan-followers-instagram-terbanyak/>. [Diakses pada: 2021-10-27].

Almeida, T. A, Hidalgo, J. M. G, dan Yamakami, A, 2011, *Contributions to the study of SMS spam filtering: New collection and results*. *DocEng 2011 - Proceedings of the 2011 ACM Symposium on Document Engineering*, pages 259–262. doi: 10.1145/2034691.2034742.

Arthana, R, 2019. *Mengenal Accuracy, Precision, Recall dan Specificity serta yang diprioritaskan dalam Machine Learning*. URL <https://rey1024.medium.com/mengenal-accuracy-precision-recall-dan-specificity-septa-yang-diprioritaskan-b79ff4d77de8>. [Diakses pada: 2021-09-01].

Asif, M, Akhtar, N, Husnain, M, Muhammad, M, Asmat, H, dan Asghar, M, 2016, *Hashtag the Tweets: Experimental Evaluation of Semantic Relatedness Measures*. *International Journal of Advanced Computer Science and Applications*, 7(6):474–482. ISSN 21565570. doi: 10.14569/IJACSA.2016.070662. URL <http://thesai.org/Publications/ViewPaper?Volume=7&Issue=6&Code=ijacsa&SerialNo=62>.

Aslam, S, 2018. *Twitter by the Numbers (2018): Stats, Demographics & Fun Facts*. URL <https://www.omnicoreagency.com/twitter-statistics/>. [Diakses pada: 2021-05-11].

- Aslam, S, 2021. *Instagram by the Numbers (2021): Stats, Demographics & Fun Facts*. URL <https://www.omnicoreagency.com/instagram-statistics/>. [Diakses pada: 2021-05-11].
- Bahdanau, D, Cho, K. H, dan Bengio, Y, 2015, *Neural machine translation by jointly learning to align and translate*. *3rd International Conference on Learning Representations, ICLR 2015 - Conference Track Proceedings*, pages 1–15.
- Ban, X, Chen, C, Liu, S, Wang, Y, dan Zhang, J, 2018, *Deep-learned features for Twitter spam detection*. *2018 International Symposium on Security and Privacy in Social Networks and Big Data, SocialSec 2018*, pages 22–26. doi: 10.1109/SocialSec.2018.8760377.
- Bansal, A, 2021, *Advanced Natural Language Processing with TensorFlow 2*. Packt Publishing, Mumbai, India, 1st edition. ISBN 9781800200937. URL <https://www.packtpub.com/product/advanced-natural-language-processing-with-tensorflow-2/9781800200937>.
- Bao, W, Bao, W, Du, J, Yang, Y, dan Zhao, X, nov 2018, Attentive Siamese LSTM Network for Semantic Textual Similarity Measure. In *2018 International Conference on Asian Language Processing (IALP)*, pages 312–317. IEEE. ISBN 978-1-7281-1175-9. doi: 10.1109/IALP.2018.8629212. URL <https://ieeexplore.ieee.org/document/8629212/>.
- Barbieri, F, Ronzano, F, dan Saggion, H, 2016, *What does this emoji mean? A vector space skip-gram model for twitter emojis*. *Proceedings of the 10th International Conference on Language Resources and Evaluation, LREC 2016*, pages 3967–3972.
- Barik, A. M, Mahendra, R, dan Adriani, M, 2019, Normalization of Indonesian-English Code-Mixed Twitter Data. In *Proceedings of the 5th Workshop on Noisy User-generated Text (W-NUT 2019)*, pages 417–424, Hong Kong, China. Association for Computational Linguistics. doi: 10.18653/v1/d19-5554. URL <https://www.aclweb.org/anthology/D19-5554/>.
- Besti, A, Ilyas, R, Kasyidi, F, dan Djamil, E. C, 2020, *Semantic classification of scientific sentence pair using recurrent neural network*. *International Conference on Electrical Engineering, Computer Science and Informatics*

(*EECSI*), 2020-Octob:150–155. ISSN 2407439X. doi: 10.23919/EECSI50503.2020.9251897.

Bogdanova, D, dos Santos, C, Barbosa, L, dan Zadrozny, B, 2015, Detecting Semantically Equivalent Questions in Online User Forums. In *Proceedings of the Nineteenth Conference on Computational Natural Language Learning*, pages 123–131, Beijing, China. Association for Computational Linguistics. ISBN 9781941643778. doi: 10.18653/v1/K15-1013. URL <http://aclweb.org/anthology/K15-1013>.

Bojanowski, P, Grave, E, Joulin, A, dan Mikolov, T, 2017, Enriching Word Vectors with Subword Information. In *Transactions of the Association for Computational Linguistics*, volume 5, pages 135–146. doi: 10.1162/tacl_a_00051.

Borlander, T, 2016. *Bolandish/PHP-Instagram-Grabber*. URL <https://github.com/Bolandish/PHP-Instagram-Grabber>.

Bowman, S. R, Angeli, G, Potts Christopher, dan Manning, C. D, 2015, A large annotated corpus for learning natural language inference. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics.

Brownlee, J, 2020. *4 Types of Classification Tasks in Machine Learning*. URL <https://machinelearningmastery.com/types-of-classification-in-machine-learning/>. [Diakses pada: 2021-09-02].

Burns, R, 2019. *188 Spam Words to Avoid: How to Stay Out of Spam Filters*. URL <https://www.activecampaign.com/blog/spam-words>. [Diakses pada: 2021-03-06].

Campos, R, Mangaravite, V, Pasquali, A, Jorge, A, Nunes, C, dan Jatowt, A, 2020, *YAKE! Keyword extraction from single documents using multiple local features*. *Information Sciences*, 509:257–289. ISSN 00200255. doi: 10.1016/j.ins.2019.09.013.

Cao, J dan Lai, C, 2020, *A bilingual multi-type spam detection model based on M-BERT*. *2020 IEEE Global Communications Conference, GLOBECOM 2020 - Proceedings*, 2020-Janua. doi: 10.1109/GLOBECOM42002.2020.9347970.

- Chandra, A dan Khatri, S. K, 2019, *Spam SMS Filtering using Recurrent Neural Network and Long Short Term Memory. 2019 4th International Conference on Information Systems and Computer Networks, ISCON 2019*, pages 118–122. doi: 10.1109/ISCON47742.2019.9036269.
- Chen, C, Wang, Y, Zhang, J, Xiang, Y, Zhou, W, dan Min, G, apr 2017a, *Statistical Features-Based Real-Time Detection of Drifted Twitter Spam. IEEE Transactions on Information Forensics and Security*, 12(4):914–925. ISSN 1556-6013. doi: 10.1109/TIFS.2016.2621888. URL <http://ieeexplore.ieee.org/document/7707341/>.
- Chen, G, Ye, D, Xing, Z, Chen, J, dan Cambria, E, may 2017b, Ensemble application of convolutional and recurrent neural networks for multi-label text categorization. In *2017 International Joint Conference on Neural Networks (IJCNN)*, volume 2017-May, pages 2377–2383. IEEE. ISBN 978-1-5090-6182-2. doi: 10.1109/IJCNN.2017.7966144. URL <http://ieeexplore.ieee.org/document/7966144/>.
- Chrismanto, A. R dan Lukito, Y, 2017a, *Identifikasi Komentar Spam Pada Instagram. Lontar Komputer : Jurnal Ilmiah Teknologi Informasi*, 8(3):219. ISSN 2088-1541. doi: 10.24843/lkjiti.2017.v08.i03.p08.
- Chrismanto, A. R dan Lukito, Y, 2017b, Klasifikasi Komentar Spam Pada Instagram Berbahasa Indonesia Menggunakan K-NN. In *Seminar Nasional Teknologi Informasi Kesehatan (SNATIK)*, pages 298–306, Yogyakarta. STIKES Surya Global.
- Chrismanto, A. R, Lukito, Y, dan Susilo, A, 2020, *Implementasi Distance Weighted K-Nearest Neighbor Untuk Klasifikasi Spam & Non-Spam Pada Komentar Instagram. Jurnal Edukasi dan Penelitian Informatika (JEPIN)*, 6(2):236. ISSN 2460-0741. doi: 10.26418/jp.v6i2.39996.
- Chrismanto, A. R, Raharjo, W. S, dan Lukito, Y, sep 2018a, *Design and Development of REST-Based Instagram Spam Detector for Indonesian Language. Proceedings - 2018 International Seminar on Application for Technology of Information and Communication: Creative Technology for Human Life, iSemantic 2018*, pages 345–350. doi: 10.1109/ISEMANTIC.2018.8549725. URL <https://ieeexplore.ieee.org/document/8549725/>.

- Chrismanto, A. R., Raharjo, W. S., dan Lukito, Y., 2019a, *Firefox Extension untuk Klasifikasi Komentar Spam pada Instagram Berbasis REST Services*. *Jurnal Edukasi dan Penelitian Informatika (JEPIN)*, 5(2):146. ISSN 2460-0741. doi: 10.26418/jp.v5i2.33010.
- Chrismanto, A. R., Sari, A. K., dan Suyanto, Y., 2022, *SPAMID-PAIR: A Novel Indonesian Post-Comment Pairs Dataset Containing Emoji*. *International Journal of Advanced Computer Science and Applications*, 13(11):92–100. ISSN 2156-5570. doi: 10.14569/IJACSA.2022.0131110. URL www.ijacsa.thesai.org.
- Chrismanto, A. R., Sari, A. K., dan Suyanto, Y., 2023, *Enhancing Spam Comment Detection on Social Media With Emoji Feature and Post-Comment Pairs Approach Using Ensemble Methods of Machine Learning*. *IEEE Access*, 11: 80246–80265. ISSN 2169-3536. doi: 10.1109/ACCESS.2023.3299853. URL <https://ieeexplore.ieee.org/document/10196430/>.
- Chrismanto, A. R., Sudiarto, W., dan Lukito, Y., 2018b, *Integration of REST-Based Web Service and Browser Extension for Instagram Spam Detection*. *International Journal of Advanced Computer Science and Applications*, 9(12). ISSN 21565570. doi: 10.14569/IJACSA.2018.091253. URL <https://thesai.org/Publications/ViewPaper?Volume=9&Issue=12&Code=IJACSA&SerialNo=53>.
- Chrismanto, A., Delima, R., Santoso, H., Wibowo, A., dan Kristiawan, R., 2019b, *Developing agriculture land mapping using Rapid Application Development (RAD): A case study from Indonesia*. *International Journal of Advanced Computer Science and Applications*, 10(10). ISSN 21565570. doi: 10.14569/ijacsa.2019.0101033.
- Chromium, 2022. *ChromeDriver - WebDriver for Chrome*. URL <https://chromedriver.chromium.org/downloads>. [Diakses pada: 2022-05-14].
- Convey, E., 1996. *Porn sneaks way back on web*. URL <https://scholar.google.com/scholar?q=Convey%20CE.%20%3APornsneakswaybackonweb.TheBostonHerald%20p.028%20May22%201996%29>. [Diakses pada: 2021-02-26].

- Dada, E. G, Bassi, J. S, Chiroma, H, Abdulhamid, S. M, Adetunmbi, A. O, dan Ajibuwa, O. E, 2019, *Machine learning for email spam filtering: review, approaches and open research problems*. *Heliyon*, 5(6). ISSN 24058440. doi: 10.1016/j.heliyon.2019.e01802.
- Databooks, 2020. *Ini Media Sosial Paling Populer Sepanjang April 2020*. URL <https://databoks.katadata.co.id/datapublish/2020/05/25/ini-media-sosial-paling-populer-sepanjang-april-2020>. [Diakses pada: 2020-11-04].
- Devlin, J, Chang, M. W, Lee, K, dan Toutanova, K, 2019, *BERT: Pre-training of deep bidirectional transformers for language understanding*. *NAACL HLT 2019 - 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies - Proceedings of the Conference*, 1(Mlm):4171–4186.
- Eisner, B, Augenstein, I, Rockt, T, dan Riedel, S, 2016, emoji2vec : Learning Emoji Representations from their Description. In *Conference: Proceedings of The Fourth International Workshop on Natural Language Processing for Social Media*, Austin, TX. Association for Computational Linguistics. ISBN 7653904726.
- Etaiwi, W dan Naymat, G, 2017, *The Impact of applying Different Preprocessing Steps on Review Spam Detection*. *Procedia Computer Science*, 113:273–279. ISSN 18770509. doi: 10.1016/j.procs.2017.08.368. URL <http://dx.doi.org/10.1016/j.procs.2017.08.368>.
- Ezzikouri, H, Erritali, M, dan Oukessou, M, mar 2016, Semantic Similarity/Relatedness for Cross Language Plagiarism Detection. In *2016 13th International Conference on Computer Graphics, Imaging and Visualization (CGiV)*, pages 372–374. IEEE. ISBN 978-1-5090-0811-7. doi: 10.1109/CGiV.2016.78. URL <https://ieeexplore.ieee.org/document/7467740/>.
- Fatichah, C, Lazuardi, W. F, Navastara, D. A, Suciati, N, dan Munif, A, 2021, *A Content Filtering from Spam Posts on Social Media using Weighted Multimodal Approach*. *Journal of Computer Science*, 17(1):55–66. ISSN 15526607. doi: 10.3844/jcssp.2021.55.66.

- Feldman, R dan Sanger, J, 2006, *The Text Mining Handbook*. Cambridge University Press, Cambridge, 1 edition. ISBN 9780511546914. doi: 10.1017/CBO9780511546914. URL <https://www.cambridge.org/core/product/identifier/9780511546914/type/book>.
- Fonseca, E dan Alvarenga, J. P. R, 2020, *Wide and deep transformers applied to semantic relatedness and textual entailment*. *CEUR Workshop Proceedings*, 2583(1):68–76. ISSN 16130073.
- Freischlag, C, 2020. *Combining numerical and text features in deep neural networks*. URL <https://towardsdatascience.com/combining-numerical-and-text-features-in-deep-neural-networks-e91f0237eea4>. [Diakses pada: 2022-01-09].
- Géron, A, 2022, *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow*. O'Reilly Media, Inc, Sebastopol, 3rd edition. ISBN 978-1-098-12597-4. URL <https://oreilly.com/catalog/errata.csp?isbn=9781492032649>.
- Ghanem, R dan Erbay, H, 2020, *Context-dependent model for spam detection on social networks*. *SN Applied Sciences*, 2(9):1–8. ISSN 2523-3963. doi: 10.1007/s42452-020-03374-x. URL <https://doi.org/10.1007/s42452-020-03374-x>.
- Godbole, A, Dalmia, A, dan Sahu, S. K, jan 2018, Siamese Neural Networks with Random Forest for detecting duplicate question pairs. In *arXiv*, pages 1–5. URL <http://arxiv.org/abs/1801.07288>.
- Goodfellow, I, Bengio, Y, dan Courville, A, 2016, *Deep Learning*. MIT Press, Massachusetts. ISBN 9780262035613.
- Gunawan, D, Saniyah, Z, dan Hizriadi, A, 2019, *Normalization of abbreviation and acronym on microtext in Bahasa Indonesia by using dictionary-based and longest common subsequence (LCS)*. *Procedia Computer Science*, 161: 553–559. ISSN 18770509. doi: 10.1016/j.procs.2019.11.155. URL <https://doi.org/10.1016/j.procs.2019.11.155>.
- Hadj Taieb, M. A, Zesch, T, dan Ben Aouicha, M, dec 2019, *A survey of semantic relatedness evaluation datasets and procedures*. *Artificial Intelligence Review*,

53(6):4407–4448. ISSN 0269-2821. doi: 10.1007/s10462-019-09796-3. URL <http://link.springer.com/10.1007/s10462-019-09796-3>.

Hammad, M, Al-Smadi, M, Baker, Q. B, dan Al-Zboon, S. A, aug 2021, *Using deep learning models for learning semantic text similarity of Arabic questions. International Journal of Electrical and Computer Engineering (IJECE)*, 11(4): 3519. ISSN 2722-2578. doi: 10.11591/ijece.v11i4.pp3519-3528. URL <http://ijece.iaescore.com/index.php/IJECE/article/view/24008>.

Han, J, Kamber, M, dan Pei, J, 2011, *Data Mining : Concepts and Techniques*. Morgan Kaufmann, 3rd edition. ISBN 978-9380931913. URL <https://www.amazon.com/Data-Mining-Concepts-Techniques-Management/dp/0123814790>.

Haqimi, N. A, Rokhman, N, dan Priyanta, S, jul 2019, *Detection Of Spam Comments On Instagram Using Complementary Naïve Bayes. IJCCS (Indonesian Journal of Computing and Cybernetics Systems)*, 13(3):263. ISSN 2460-7258. doi: 10.22146/ijccs.47046. URL <https://jurnal.ugm.ac.id/ijccs/article/view/47046>.

He, P, Liu, X, Gao, J, dan Chen, W, 2020, DeBERTa: Decoding-enhanced BERT with Disentangled Attention. In *arXiv*, pages 1–21.

Hines, K, 2021. *How to Identify and Control Blog Comment Spam on WordPress*. URL <https://neilpatel.com/blog/control-blog-comment-spam/>. [Diakses pada: 2021-02-27].

Hinton, S dan Hjorth, L, 2013, *Understanding Social Media*. SAGE Publications Ltd, 1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom. ISBN 9781446201213. doi: 10.4135/9781446270189. URL <http://sk.sagepub.com/books/understanding-social-media>.

Hochreiter, S dan Schmidhuber, J, 1997, *Long Short-Term Memory. Neural Computation*, 9(8):1735–1780. ISSN 08997667. doi: 10.1162/neco.1997.9.8.1735.

Homma, Y, Sy, S, dan Yeh, C, 2016, Detecting Duplicate Questions with Deep Learning. In *30th Conference on Neural Information Processing Systems (NIPS 2016)*, pages 1–8, Barce-

lona, Spain. URL <https://pdfs.semanticscholar.org/6ffd/e80e503fe6125237476494e777f4fe6d62c4.pdf>.

Huang, J, Yao, S, Lyu, C, dan Ji, D, 2017, Multi-Granularity Neural Sentence Model for Measuring Short Text Similarity. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, volume 10177 LNCS, pages 439–455. Springer Verlag. doi: 10.1007/978-3-319-55753-3_28. URL http://link.springer.com/10.1007/978-3-319-55753-3_{_}28.

Instagram, 2020. *How do I filter out and hide comments I don't want to appear on my posts on Instagram? | Instagram Help Centre*. URL <https://www.facebook.com/help/instagram/700284123459336>. [Diakses pada: 2021-03-06].

Instagram, 2022. *Community Guidelines | Instagram Help Centre*. URL <https://help.instagram.com/477434105621119>. [Diakses pada: 2022-01-06].

InternetSociety, 2014. *What Is Spam | Internet Society*. URL <https://www.internetsociety.org/resources/doc/2014/what-is-spam/>. [Diakses pada: 2021-02-26].

Inuwa-Dutse, I, Liptrott, M, dan Korkontzelos, I, nov 2018, *Detection of spam-posting accounts on Twitter*. *Neurocomputing*, 315:496–511. ISSN 09252312. doi: 10.1016/j.neucom.2018.07.044. URL <https://linkinghub.elsevier.com/retrieve/pii/S0925231218308798>.

Jain, G, Sharma, M, dan Agarwal, B, 2019, *Spam detection in social media using convolutional and long short term memory neural network*. *Annals of Mathematics and Artificial Intelligence*, 85(1):21–44. ISSN 15737470. doi: 10.1007/s10472-018-9612-z. URL <https://link.springer.com/article/10.1007/s10472-018-9612-z>.

Jang, B, Kim, M, Harerimana, G, Kang, S. U, dan Kim, J. W, 2020, *Bi-LSTM model to increase accuracy in text classification: Combining word2vec CNN and attention mechanism*. *Applied Sciences (Switzerland)*, 10(17). ISSN 20763417. doi: 10.3390/app10175841.

- Joe, S, may 2019. *Instagram Scrapper*. URL <https://github.com/realsirjoe/instagram-scraper>. [Diakses pada: 2022-05-14].
- Kacmajor, M, Kelleher, J. D, Klubicka, F, dan Maldonado, A, feb 2020, Semantic Relatedness and Taxonomic Word Embeddings. In *arXiv*. URL <http://arxiv.org/abs/2002.06235>.
- Kanodia, S, Sasheendran, R, dan Pathari, V, 2018, *A Novel Approach for Youtube Video Spam Detection using Markov Decision Process*. *2018 International Conference on Advances in Computing, Communications and Informatics, ICACCI 2018*, pages 60–66. doi: 10.1109/ICACCI.2018.8554405.
- Kaplan, A. M dan Haenlein, M, jan 2010, *Users of the world, unite! The challenges and opportunities of Social Media*. *Business Horizons*, 53(1):59–68. ISSN 00076813. doi: 10.1016/j.bushor.2009.09.003. URL <https://www.sciencedirect.com/science/article/pii/S0007681309001232https://linkinghub.elsevier.com/retrieve/pii/S0007681309001232>.
- Kapoor, A, Gulli, A, dan Pal, S, 2022, *Deep Learning with TensorFlow and Keras*. Packt Publishing, Birmingham, 3rd edition. ISBN 978-1-80323-291-1.
- Kemendikbud, 2020. *Hasil Pencarian - KBBI Daring*. URL <https://kbbi.kemdikbud.go.id/entri/spam>. [Diakses pada: 2021-02-26].
- Khatun, A, Matin, M. H, Miah, A.-a, dan Miah, R, 2020, *Comparative Study on Text Classification*. *International Journal of Engineering Science Invention (IJESI)*, 9(9):21–33. doi: 10.35629/6734-0909012133.
- Khawandi, S, Abdallah, F, dan Ismail, A, 2019, *A Survey On Image Spam Detection Techniques*. In *3rd International Conference on Computer Science and Information Technology (COMIT 2019)*, pages 13–27. doi: 10.5121/csit.2019.90102.
- Khobragade, R dan Bhattacharyya, P, 2019. *Survey of Textual Entailment Approaches*. URL <https://www.cfilt.iitb.ac.in/resources/surveys/rakesh{ }heaven{ }survey{ }2019.pdf>. [Diakses pada: 2021-05-05].
- Khodake, P. S, 2020, *Analysis and Detection of Spam Comments on Social Networking Platforms like YouTube using Machine Learning*. *International*

Journal for Research in Applied Science and Engineering Technology, 8(9): 1280–1282. doi: 10.22214/ijraset.2020.31677.

Khot, T, Sabharwal, A, dan Clark, P, apr 2018, *SciTail: A Textual Entailment Dataset from Science Question Answering. Proceedings of the AAAI Conference on Artificial Intelligence*, 32(1):5189–5197. ISSN 2374-3468. doi: 10.1609/aaai.v32i1.12022. URL <https://ojs.aaai.org/index.php/AAAI/article/view/12022>.

Kilgarriff, A dan Fellbaum, C, 2000, *WordNet: An Electronic Lexical Database. Language*, 76(3):706. ISSN 00978507. doi: 10.2307/417141.

Kim, J, Seo, D, Kim, H, dan Kang, P, 2017, *Facebook Spam Post Filtering based on Instagram-based Transfer Learning and Meta Information of Posts. Journal of the Korean Institute of Industrial Engineers*, 43(3):192–202. ISSN 1225-0988. doi: 10.7232/jkii.2017.43.3.192.

Kingma, D. P dan Ba, J, 2017. *Adam: A Method for Stochastic Optimization*.

Krithiga, R dan Ilavarasan, D. R, 2020, *Machine learning techniques for spammer identification: State of the art and analysis. Journal of Critical Reviews*, 7(1):446–448. ISSN 23945125. doi: 10.31838/jcr.07.01.87.

Kusumawardani, R. P, Priansya, S, dan Atletiko, F. J, 2018, *Context-sensitive normalization of social media text in bahasa Indonesia based on neural word embeddings. Procedia Computer Science*, 144:105–117. ISSN 18770509. doi: 10.1016/j.procs.2018.10.510. URL <https://doi.org/10.1016/j.procs.2018.10.510>.

Ladha, L dan Deepa, T, 2011, *Feature Selection Methods And Algorithms. International Journal on Computer Science and Engineering*, 3(5):1787–1797. URL <http://journals.indexcopernicus.com/abstract.php?icid=945099>.

Lan, Z, Chen, M, Goodman, S, Gimpel, K, Sharma, P, dan Soricut, R, 2019, *Albert: A lite bert for self-supervised learning of language representations. arXiv*, pages 1–17. ISSN 23318422.

Lee, J dan Cheah, Y.-N, 2015, *Semantic Relatedness Measure for Identifying Relevant Answers in Online Community Question Answering Services*. In

- 9th International Conference on Information Technology in Asia*, Kuching, Malaysia. Faculty of Computer Science and IT, Universiti Malaysia Sarawak (UNIMAS). URL <https://ir.unimas.my/id/eprint/12080/>.
- Li, D, Wang, Y, Rzepka, R, dan Araki, K, 2020, Preliminary Analysis of Weibo Emoji Usage in Spam Analysis of Weibo Comments. In *LAU Spring 2020*, pages 24–26. URL <http://arakilab.media.eng.hokudai.ac.jp/~araki/2019/2019-D-6.pdf>.
- Li, J, Chen, W, Gu, B, Fang, J, Li, Z, dan Zhao, L, 2019a, Measuring Semantic Relatedness with Knowledge Association Network. In Li G., Yang J., Gama J., Natwichai J., T. Y, editor, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, volume 11446 LNCS, pages 676–691. Springer International Publishing, Switzerland. ISBN 9783030185756. doi: 10.1007/978-3-030-18576-3_40. URL http://dx.doi.org/10.1007/978-3-030-18576-3_40http://link.springer.com/10.1007/978-3-030-18576-3_40.
- Li, M, Wu, B, dan Wang, Y, 2019b, Comment Spam Detection via Effective Features Combination. In *IEEE International Conference on Communications*, Shanghai, China. IEEE. ISBN 9781538680889. doi: 10.1109/ICC.2019.8761340. URL <https://ieeexplore.ieee.org/abstract/document/8761340>.
- Liang, H, Sun, X, Sun, Y, dan Gao, Y, 2017, *Text feature extraction based on deep learning: a review*. *Eurasip Journal on Wireless Communications and Networking*, 2017(1):1–12. ISSN 16871499. doi: 10.1186/s13638-017-0993-1.
- Liu, C, Fang, F, Lin, X, Cai, T, Tan, X, Liu, J, dan Lu, X, dec 2021, *Improving sentiment analysis accuracy with emoji embedding*. *Journal of Safety Science and Resilience*, 2(4):246–252. ISSN 26664496. doi: 10.1016/j.jnlssr.2021.10.003. URL <https://linkinghub.elsevier.com/retrieve/pii/S2666449621000529>.
- Liu, G dan Guo, J, 2019, *Bidirectional LSTM with attention mechanism and convolutional layer for text classification*. *Neurocomputing*, 337:325–338. ISSN 18728286. doi: 10.1016/j.neucom.2019.01.078. URL <https://doi.org/10.1016/j.neucom.2019.01.078>.

- Liu, P, Qiu, X, dan Xuanjing, H, 2016a, *Recurrent neural network for text classification with multi-task learning*. *IJCAI International Joint Conference on Artificial Intelligence*, 2016-Janua:2873–2879. ISSN 10450823.
- Liu, P, Qiu, X, Zhou, Y, Chen, J, dan Huang, X, 2016b, *Modelling interaction of sentence pair with coupled-LSTMs*. *EMNLP 2016 - Conference on Empirical Methods in Natural Language Processing, Proceedings*, pages 1703–1712. doi: 10.18653/v1/d16-1176.
- Liu, Y, Ott, M, Goyal, N, Du, J, Joshi, M, Chen, D, Levy, O, Lewis, M, Zettlemoyer, L, dan Stoyanov, V, 2019, RoBERTa: A robustly optimized BERT pretraining approach. In *arXiv*. ArXiv. URL <https://arxiv.org/abs/1907.11692>.
- Lukito, Y dan Chrismanto, A. R, nov 2017, Recurrent neural networks model for WiFi-based indoor positioning system. In *2017 International Conference on Smart Cities, Automation & Intelligent Computing Systems (ICON-SONICS)*, volume 2018-Janua, pages 121–125. IEEE. ISBN 978-1-5090-6278-2. doi: 10.1109/ICON-SONICS.2017.8267833. URL <http://ieeexplore.ieee.org/document/8267833/>.
- Luong, T, Pham, H, dan Manning, C. D, 2015, Effective Approaches to Attention-based Neural Machine Translation. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pages 1412–1421, Stroudsburg, PA, USA. Association for Computational Linguistics. ISBN 9781941643327. doi: 10.18653/v1/D15-1166. URL <http://aclweb.org/anthology/D15-1166>.
- Mahendra, R, Aji, A. F, Louvan, S, Rahman, F, dan Vania, C, 2021, *IndoNLI: A Natural Language Inference Dataset for Indonesian*. *EMNLP 2021 - 2021 Conference on Empirical Methods in Natural Language Processing, Proceedings*, pages 10511–10527. doi: 10.18653/v1/2021.emnlp-main.821.
- Majumder, G, Pakray, P, Gelbukh, A, dan Pinto, D, dec 2016, *Semantic Textual Similarity Methods, Tools, and Applications: A Survey*. *Computación y Sistemas*, 20(4):647–665. ISSN 2007-9737. doi: 10.13053/cys-20-4-2506. URL <http://www.cys.cic.ipn.mx/ojs/index.php/CyS/article/view/2506>.

- Mani, jan 2022. *NLP Profiler*. URL https://github.com/neomatrix369/nlp_profiler. [Diakses pada: 2022-05-15].
- Manning, C. D, Raghavan, P, dan Schütze, H, 2008, *Introduction to Information Retrieval*. Cambridge University Press. ISBN 0521865719. URL <https://nlp.stanford.edu/IR-book/>.
- Mansoor, M, ur Rehman, Z, Shaheen, M, Khan, M. A, dan Habib, M, dec 2020, *Deep Learning based Semantic Similarity Detection using Text Data*. *Information Technology And Control*, 49(4):495–510. ISSN 2335-884X. doi: 10.5755/j01.itc.49.4.27118. URL <https://itc.ktu.lt/index.php/ITC/article/view/27118>.
- Mawardi, V, Susanto, N, dan Naga, D, apr 2018, *Spelling Correction for Text Documents in Bahasa Indonesia Using Finite State Automata and Levinshstein Distance Method*. *MATEC Web of Conferences*, 164:01047. ISSN 2261-236X. doi: 10.1051/mateconf/201816401047. URL <https://www.mateconferences.org/10.1051/mateconf/201816401047>.
- McCann, B, Bradbury, J, Xiong, C, dan Socher, R, jul 2017, *Learned in Translation: Contextualized Word Vectors*. *Advances in Neural Information Processing Systems*, 2017-Decem:6295–6306. ISSN 10495258. URL <http://arxiv.org/abs/1708.00107>.
- McCord, M dan Chuah, M, 2011, Spam Detection on Twitter Using Traditional Classifiers. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, pages 175–186. Springer. ISBN 9783642234958. doi: 10.1007/978-3-642-23496-5_13. URL https://link.springer.com/chapter/10.1007/978-3-642-23496-5_13.
- Mikolov, T, Chen, K, Corrado, G, dan Dean, J, 2013, *Distributed Representations of Words and Phrases and their Compositionality*, Technical report, Google.
- Mishne, G, Carmel, D, dan Lempel, R, 2005, Blocking blog spam with language model disagreement. In *Proceedings of the 1st International Workshop on Adversarial Information Retrieval on the Web, AIRWeb 2005 - Held in*

Conjunction with the 14th International World Wide Web Conference, pages 1–6, Chiba, Japan. AIRWeb 2005.

Mishra, P, 2019, *Correlated Feature Selection for Tweet Spam Classification using Artificial Neural Networks*. *arXiv*. URL <https://arxiv.org/abs/1911.05495>.

Mishra, P, Kaushik, S, dan Dey, K, 2021, *Bi-ISCA: Bidirectional Inter-Sentence Contextual Attention Mechanism for Detecting Sarcasm in User Generated Noisy Short Text*. *CEUR Workshop Proceedings*, 2995:1–8. ISSN 16130073.

Mishra, U, 2021. *Binary and Multiclass Classification in Machine Learning*. URL <https://www.analyticssteps.com/blogs/binary-and-multiclass-classification-machine-learning>. [Diakses pada: 2021-09-02].

Mohsin, M, 2021. *10 Facebook Statistics Every Marketer Should Know in 2021 [Infographic]*. URL <https://www.oberlo.com/blog/facebook-statistics>. [Diakses pada: 2021-05-11].

Mostafavi, M, Varnosfaderani, M. P, Nikseresht, F, dan Mansouri, S. A, 2022. *emojiSpace: Spatial Representation of Emojis*.

Mozilla Developer Network, 2021. *Anatomy of an extension*. URL https://developer.mozilla.org/en-US/docs/Mozilla/Add-ons/WebExtensions/Anatomy_of_a_WebExtension. [Diakses pada: 2021-09-01].

Mus, C, 2015. *10+ Akun Instagram Dengan Followers Terbanyak Di Indonesia*. URL <http://www.musdeoranje.net/2016/08/akun-instagram-dengan-followers-terbanyak-di-indonesia.html>. [Diakses pada: 2021-10-13].

Musyarofah, R. L, Utami, E. U, dan Raharjo, S. R, 2020, *Analisis Komentar Potensial pada Social Commerce Instagram Menggunakan TF-IDF*. *Jurnal Eksplora Informatika*, 9(2):130–139. ISSN 2089-1814. doi: 10.30864/eksplora.v9i2.360.

Olah, C, 2015. *Understanding LSTM Networks*. URL <https://colah.github.io/posts/2015-08-Understanding-LSTMs/>. [Diakses pada: 2020-03-17].

- O'Reilly, T, 2005. *What Is Web 2.0 - O'Reilly Media*. URL <https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>. [Diakses pada: 2021-02-26].
- Parikh, A, Täckström, O, Das, D, dan Uszkoreit, J, 2016, A Decomposable Attention Model for Natural Language Inference. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 2249–2255, Stroudsburg, PA, USA. Association for Computational Linguistics. ISBN 9781945626258. doi: 10.18653/v1/D16-1244. URL <http://aclweb.org/anthology/D16-1244>.
- Patil, M. G, Galande, M. V, Kekan, V, dan Dange, M. K, 2014, *Sentiment Analysis Using Support Vector Machine*. *International Journal of Innovative Research in Computer and Communication Engineering*, 2(1):2607–2612. doi: 10.1109/I4CT.2014.6914200.
- Pedregosa, F, Varoquaux, G, Gramfort, A, Michel, V, Thirion, B, Grisel, O, Blondel, M, Prettenhofer, P, Weiss, R, Dubourg, V, Vanderplas, J, Passos, A, Cournapeau, D, Brucher, M, Perrot, M, dan Duchesnay, E, 2011, *Scikit-learn: Machine Learning in Python*. *Journal of Machine Learning Research*, 12:2825–2830.
- Pei, J, Wu, Y, Qin, Z, Cong, Y, dan Guan, J, 2021, Attention-based model for predicting question relatedness on Stack Overflow. In *International Conference on Mining Software Repositories (MSR) 2021*, pages 97–107. IEEE. ISBN 9781728187105. doi: 10.1109/msr52588.2021.00023. URL <http://arxiv.org/abs/2103.10763>.
- Pennington, J, Socher, R, dan Manning, C. D, 2014, GloVe: Global Vectors for Word Representation. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 1532–1543, Doha, Qatar. Association for Computational Linguistics. doi: 10.3115/v1/D14-1162.
- Perrin, A dan Anderson, M, 2019. *Social media usage in the U.S. in 2019 / Pew Research Center*. URL <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>. [Diakses pada: 2021-04-26].

- Peters, M. E, Neumann, M, Gardner, M, Clark, C, Lee, K, dan Zettlemoyer, L, 2018, Deep contextualized word representations. In *Proceedings of NAACL-HLT 2018*, pages 2227–2237, New Orleans, Louisiana. Association for Computational Linguistics. URL <http://allennlp.org/elmo>.
- Prabowo, F dan Purwarianti, A, 2018, Instagram online shop's comment classification using statistical approach. In *Proceedings - 2017 2nd International Conferences on Information Technology, Information Systems and Electrical Engineering, ICITISEE 2017*, pages 282–287, Yogyakarta. IEEE. ISBN 9781538606582. doi: 10.1109/ICITISEE.2017.8285512. URL <https://ieeexplore.ieee.org/document/8285512>.
- Prince, S, 2023, *Understanding Deep Learning*. MIT Press, 1st edition. URL <https://udlbook.github.io/udlbook/>.
- Priyoko, B dan Yaqin, A, 2019, *Implementation of naive bayes algorithm for spam comments classification on Instagram. 2019 International Conference on Information and Communications Technology, ICOIACT 2019*, pages 508–513. doi: 10.1109/ICOIACT46704.2019.8938575.
- Qiao, C, Huang, B, Niu, G, Li, D, Dong, D, He, W, Yu, D, dan Wu, H, 2018, A new method of region embedding for text classification. In *6th International Conference on Learning Representations, ICLR 2018 - Conference Track Proceedings*, pages 1–12, Vancouver, CANADA. ICLR 2018.
- Rachmat, A dan Lukito, Y, 2017, *Deteksi Komentar Spam Bahasa Indonesia Pada Instagram Menggunakan Naive Bayes. Jurnal ULTIMATICS*, 9(1):50–58. ISSN 2085-4552. doi: 10.31937/ti.v9i1.564.
- Raffel, C, Shazeer, N, Roberts, A, Lee, K, Narang, S, Matena, M, Zhou, Y, Peter, W. L, dan Liu, J, 2019, *Exploring the limits of transfer learning with a unified text-to-text transformer. arXiv*, 21:1–67.
- Ramaprabha, J, Das, S, dan Mukerjee, P, apr 2018, *Survey on Sentence Similarity Evaluation using Deep Learning. Journal of Physics: Conference Series*, 1000(1):012070. ISSN 1742-6588. doi: 10.1088/1742-6596/1000/1/012070. URL <https://iopscience.iop.org/article/10.1088/1742-6596/1000/1/012070>.

- Reelfs, J. H, Hohlfeld, O, Strohmaier, M, dan Henckell, N, may 2020, Word-Emoji Embeddings from large scale Messaging Data reflect real-world Semantic Associations of Expressive Icons. In *3rd International Workshop on Emoji Understanding and Applications in Social Media*. ArXiv. URL <http://arxiv.org/abs/2006.01207>.
- Reimers, N dan Gurevych, I, 2019, *Sentence-BERT: Sentence embeddings using Siamese BERT-networks*. *arXiv*, pages 3982–3992. ISSN 23318422.
- Rennie, J. D, Shih, L, Teevan, J, dan Karger, D, 2003, *Tackling the Poor Assumptions of Naive Bayes Text Classifiers*. *Proceedings, Twentieth International Conference on Machine Learning*, 2(1973):616–623.
- Rothman, D, 2021, *Transformers for Natural Language Processing Build innovative deep neural network architectures for NLP & Python, PyTorch, TensorFlow, BERT, RoBERTa & more*. Packt Publishing, 1st edition. ISBN 9781800565791. URL <https://www.packtpub.com/product/transformers-for-natural-language-processing/9781800565791>.
- Rousset, D, 2017. *Creating One Browser Extension For All Browsers: Edge, Chrome, Firefox, Opera, Brave And Vivaldi*. URL <https://www.smashingmagazine.com/2017/04/browser-extension-edge-chrome-firefox-opera-brave-vivaldi/>. [Diakses pada: 2021-09-01].
- Roy, P. K, Singh, J. P, dan Banerjee, S, 2020, *Deep learning to filter SMS Spam*. *Future Generation Computer Systems*, 102:524–533. ISSN 0167739X. doi: 10.1016/j.future.2019.09.001. URL <https://doi.org/10.1016/j.future.2019.09.001>.
- Ruskanda, F. Z, 2019, *Study on the Effect of Preprocessing Methods for Spam Email Detection*. *Indonesian Journal on Computing (Indo-JC)*, 4(1):109. ISSN 2460-9234. doi: 10.21108/indojc.2019.4.1.284.
- Sahoo, S. R dan Gupta, B. B, 2021, *Multiple features based approach for automatic fake news detection on social networks using deep learning*. *Applied Soft Computing*, 100:106983. ISSN 15684946. doi: 10.1016/j.asoc.2020.106983. URL <https://doi.org/10.1016/j.asoc.2020.106983>.

- Saidani, N, Adi, K, dan Allili, M. S, 2020, *A semantic-based classification approach for an enhanced spam detection*. *Computers and Security*, 94: 101716. ISSN 01674048. doi: 10.1016/j.cose.2020.101716. URL <https://doi.org/10.1016/j.cose.2020.101716>.
- Samsudin, N. M, Mohd Foozy, C. F. B, Alias, N, Shamala, P, Othman, N. F, dan Wan Din, W. I. S, 2019, *Youtube spam detection framework using naïve bayes and logistic regression*. *Indonesian Journal of Electrical Engineering and Computer Science*, 14(3):1508–1517. ISSN 25024760. doi: 10.11591/ijeecs.v14.i3.pp1508-1517.
- Sanborn, A dan Skryzalin, J, 2015, *Deep Learning for Semantic Similarity*. *CS224d: Deep Learning for Natural Language Processing Stanford, CA, USA: Stanford University*, pages 1–7.
- Sanh, V, Debut, L, Chaumond, J, dan Wolf, T, 2019, *DistilBERT, a distilled version of BERT: Smaller, faster, cheaper and lighter*. *arXiv*, pages 2–6. ISSN 23318422.
- Saumya, S dan Singh, J. P, 2020, *Spam review detection using LSTM autoencoder: an unsupervised approach*. *Electronic Commerce Research*, 20 (0123456789). ISSN 15729362. doi: 10.1007/s10660-020-09413-4. URL <https://doi.org/10.1007/s10660-020-09413-4>.
- Sawers, P, 2010. *The origin of the word ‘spam’ | THE GOOD WORD*. URL <http://www.thegoodword.co.uk/2010/09/20/the-origin-of-the-word-spam/>. [Diakses pada: 2021-02-26].
- Septiandri, A. A dan Wibisono, O, 2017, *Detecting spam comments on Indonesia’s Instagram posts*. *Journal of Physics: Conference Series*, 801(012069): 1–7. ISSN 1742-6588. doi: 10.1088/1742-6596/755/1/011001. URL <https://iopscience.iop.org/article/10.1088/1742-6596/755/1/011001>.
- Setya, K. N dan Mahendra, R, 2023a, *Semi-supervised Textual Entailment on Indonesian Wikipedia Data*. In Gelbukh, A, editor, *Computational Linguistics and Intelligent Text Processing - 19th International Conference, CILing 2018, Revised Selected Paper*, pages 416–427. Springer Science and Business Media Deutschland GmbH, Hanoi, Viet Nam. doi: 10.1007/978-3-

031-23793-5_34. URL https://link.springer.com/10.1007/978-3-031-23793-5_34.

Setya, K. N dan Mahendra, R, 2023b, Semi-supervised Textual Entailment on Indonesian Wikipedia Data. In Gelbukh, A, editor, *Computational Linguistics and Intelligent Text Processing - 19th International Conference, CILing 2018, Revised Selected Paper*, pages 416–427. Springer Science and Business Media Deutschland GmbH, Hanoi, Viet Nam. doi: 10.1007/978-3-031-23793-5_34. URL https://link.springer.com/10.1007/978-3-031-23793-5_34.

Severyn, A dan Moschitti, A, aug 2015, Learning to Rank Short Text Pairs with Convolutional Deep Neural Networks. In *Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval*, pages 373–382, New York, NY, USA. ACM. ISBN 9781450336215. doi: 10.1145/2766462.2767738. URL <https://dl.acm.org/doi/10.1145/2766462.2767738>.

Shahariar, G. M, Biswas, S, Omar, F, Shah, F. M, dan Binte Hassan, S, 2019, *Spam Review Detection Using Deep Learning. 2019 IEEE 10th Annual Information Technology, Electronics and Mobile Communication Conference, IEMCON 2019*, pages 27–33. doi: 10.1109/IEMCON.2019.8936148.

Singh, A, Blanco, E, dan Jin, W, 2019, Incorporating emoji descriptions improves tweet classification. In *NAACL HLT 2019 - 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies - Proceedings of the Conference*, volume 1, pages 2096–2101. Association for Computational Linguistics. ISBN 9781950737130. doi: 10.18653/v1/n19-1214. URL <https://aclanthology.org/N19-1214/>.

Singh, P dan Manure, A, 2020, *Learn TensorFlow 2.0*. Apress, Berkeley, CA, 1st edition. ISBN 978-1-4842-5560-5. doi: 10.1007/978-1-4842-5558-2. URL <https://www.apress.com/gp/book/9781484255605><https://link.springer.com/10.1007/978-1-4842-5558-2>.

Srinivasan, S, Ravi, V, Sowmya, V, Krichen, M, Ben Nouredine, D, Anivilla, S, dan Soman, K. P, 2020, *Deep Convolutional Neural Network Based Image Spam Classification. Proceedings - 2020 6th Conference on Data Science and*

Machine Learning Applications, CDMA 2020, pages 112–117. doi: 10.1109/CDMA47397.2020.00025.

StatCounter, 2020. *Social Media Stats Indonesia | StatCounter Global Stats*. URL <https://gs.statcounter.com/social-media-stats/all/indonesia>. [Diakses pada: 2021-04-26].

Statista, 2020. • *Indonesia: social media platforms used daily 2020 | Statista*. URL <https://www.statista.com/statistics/1168819/indonesia-social-media-platforms-used-daily/>. [Diakses pada: 2021-04-26].

Sun, X dan Lu, W, 2020, Understanding Attention for Text Classification. In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, pages 3418–3428, Stroudsburg, PA, USA. Association for Computational Linguistics. doi: 10.18653/v1/2020.acl-main.312. URL <https://www.aclweb.org/anthology/2020.acl-main.312>.

Tehlan, P, Madaan, R, dan Bhatia, K. K, 2019, *A spam detection mechanism in social media using soft computing. Proceedings of the 2019 6th International Conference on Computing for Sustainable Global Development, INDIACom 2019*, pages 950–955.

Tian, W, Li, J, dan Li, H, 2018, *A Method of Feature Selection Based on Word2Vec in Text Categorization. Chinese Control Conference, CCC, 2018-July*: 9452–9455. ISSN 21612927. doi: 10.23919/ChiCC.2018.8483345.

Vaswani, A, Shazeer, N, Parmar, N, Uszkoreit, J, Jones, L, Gomez, A. N, Kaiser, Ł, dan Polosukhin, I, 2017, *Attention is all you need. Advances in Neural Information Processing Systems, 2017-Decem(Nips)*:5999–6009. ISSN 10495258.

Venkatesh, B dan Anuradha, J, 2019, *A review of Feature Selection and its methods. Cybernetics and Information Technologies*, 19(1):3–26. ISSN 13144081. doi: 10.2478/CAIT-2019-0001.

Vennila, G dan Manikandan, M. S, 2017, *Detection of Human and Computer Voice Spammers Using Hidden Markov Model in Voice over Internet Protocol Network. Procedia Computer Science*, 115:588–595. ISSN 18770509. doi: 10.1016/j.procs.2017.09.169. URL <https://doi.org/10.1016/j.procs.2017.09.169>.

- Verma, V. K, Ranjan, M, dan Mishra, P, jan 2015, Text mining and information professionals: Role, issues and challenges. In *2015 4th International Symposium on Emerging Trends and Technologies in Libraries and Information Services*, pages 133–137, Noida, India. IEEE. ISBN 978-1-4799-7999-8. doi: 10.1109/ETTLLIS.2015.7048186. URL <http://ieeexplore.ieee.org/document/7048186/>.
- Wang, L, Zhang, L, dan Jiang, J, 2020a, *Duplicate Question Detection With Deep Learning in Stack Overflow*. *IEEE Access*, 8:25964–25975. ISSN 2169-3536. doi: 10.1109/ACCESS.2020.2968391. URL <https://ieeexplore.ieee.org/document/8964380/>.
- Wang, L, Zhang, L, dan Jiang, J, 2020b, *Duplicate Question Detection With Deep Learning in Stack Overflow*. *IEEE Access*, 8:25964–25975. ISSN 2169-3536. doi: 10.1109/ACCESS.2020.2968391. URL <https://ieeexplore.ieee.org/document/8964380/>.
- Wang, M, Yang, H, Qin, Y, Sun, S, dan Deng, Y, 2020c, *Unified Humor Detection Based on Sentence-pair Augmentation and Transfer Learning*. *Proceedings of the 22nd Annual Conference of the European Association for Machine Translation*, pages 53–59. URL <https://www.aclweb.org/anthology/2020.eamt-1.7>.
- Wang, Y, Liu, B, Wu, H, Zhao, S, Cai, Z, Li, D, dan Fong, C. C, 2020d, *An opinion spam detection method based on multi-filters convolutional neural network*. *Computers, Materials and Continua*, 65(1):355–367. ISSN 15462226. doi: 10.32604/cmc.2020.09835.
- Wang, Z, Mi, H, dan Ittycheriah, A, feb 2016, *Sentence Similarity Learning by Lexical Decomposition and Composition*. *COLING 2016 - 26th International Conference on Computational Linguistics, Proceedings of COLING 2016: Technical Papers*, pages 1340–1349. URL <http://arxiv.org/abs/1602.07019>.
- Weiss, S. M, Indurkha, N, Zhang, T, dan Damerou, F. J, 2005, *Text mining: Predictive methods for analyzing unstructured information*. Springer New York. ISBN 0387954333. doi: 10.1007/978-0-387-34555-0.

- Wicaksono, I, 2020, *Sistem identifikasi komentar negatif pada instagram*, Technical report, Universitas Muhammadiyah Surakarta, Surakarta. URL <http://eprints.ums.ac.id/82841/7/NaskahPublikasi-UploadPerpus.pdf>.
- Wilie, B, Vincentio, K, Winata, G. I, Cahyawijaya, S, Li, X, Lim, Z. Y, Soleman, S, Mahendra, R, Fung, P, Bahar, S, dan Purwarianti, A, 2020, *IndoNLU: Benchmark and resources for evaluating indonesian natural language understanding*. *arXiv*. ISSN 23318422.
- Wongso, R, Luwinda, F. A, Trisnajaya, B. C, Rusli, O, dan Rudy, 2017, *News Article Text Classification in Indonesian Language*. *Procedia Computer Science*, 116:137–143. ISSN 18770509. doi: 10.1016/j.procs.2017.10.039. URL <https://doi.org/10.1016/j.procs.2017.10.039>.
- Wu, T, Wen, S, Xiang, Y, dan Zhou, W, jul 2018, *Twitter spam detection: Survey of new approaches and comparative study*. *Computers & Security*, 76:265–284. ISSN 01674048. doi: 10.1016/j.cose.2017.11.013. URL <https://linkinghub.elsevier.com/retrieve/pii/S016740481730250X>.
- Yang, R, Zhang, J, Gao, X, Ji, F, dan Chen, H, 2020, *Simple and effective text matching with richer alignment features*. *ACL 2019 - 57th Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference*, pages 4699–4709. doi: 10.18653/v1/p19-1465.
- Yang, Z, Dai, Z, Yang, Y, Carbonell, J, Salakhutdinov, R, dan Le, Q. V, 2019, *XLNet: Generalized autoregressive pretraining for language understanding*. In Wallach, H, Larochelle, H, Beygelzimer, A, D'Alché-Buc, F, Fox, E, dan Garnett, R, editors, *arXiv*, pages 1–18, Vancouver, Canada. NeurIPS Proceedings. URL <https://papers.nips.cc/paper/2019/hash/dc6a7e655d7e5840e66733e9ee67cc69-Abstract.html>.
- Yin, W, Schütze, H, Xiang, B, dan Zhou, B, dec 2016, *ABCNN: Attention-Based Convolutional Neural Network for Modeling Sentence Pairs*. *Transactions of the Association for Computational Linguistics*, 4:566–567. ISSN 2307-387X. doi: 10.1162/tacl_a_00244. URL <https://direct.mit.edu/tacl/article/43468>.

- YouTube, 2022. *Kebijakan mengenai spam, praktik penipuan, dan scam - Bantuan YouTube*. URL <https://support.google.com/youtube/answer/2801973?hl=id{#}zippy={%}2Cspam-komentar>. [Diakses pada: 2022-01-06].
- Yu, S, Su, J, dan Luo, D, 2019, *Improving BERT-Based Text Classification with Auxiliary Sentence and Domain Knowledge*. *IEEE Access*, 7:176600–176612. ISSN 21693536. doi: 10.1109/ACCESS.2019.2953990.
- Yuan, Z dan Jun, S, oct 2020, Siamese Network cooperating with Multi-head Attention for semantic sentence matching. In *2020 19th International Symposium on Distributed Computing and Applications for Business Engineering and Science (DCABES)*, pages 215–218. IEEE. ISBN 978-1-7281-9724-1. doi: 10.1109/DCABES50732.2020.00068. URL <https://ieeexplore.ieee.org/document/9277782/>.
- Yüksel, A. E, Türkmen, Y. A, Özgür, A, dan Altınel, A. B, 2019, *Turkish tweet classification with transformer encoder*. *International Conference Recent Advances in Natural Language Processing, RANLP*, 2019-Sept:1380–1387. ISSN 13138502. doi: 10.26615/978-954-452-056-4_158.
- Yusof, Y dan Sadoon, O. H, 2017, Detecting Video Spammers in Youtube Social Media. In *ICOICI Kuala Lumpur. Universiti Utara Malaysia*, pages 228–234, Kuala Lumpur. Universiti Utara Malaysia. URL <http://www.uum.edu.my>.
- Zaheer, M, Guruganesh, G, Dubey, A, Ainslie, J, Alberti, C, Ontanon, S, Pham, P, Ravula, A, Wang, Q, Yang, L, dan Ahmed, A, 2020, Big Bird: Transformers for Longer Sequences. In *arXiv*, Vancouver, CANADA. NeurIPS Proceedings. URL <https://proceedings.neurips.cc/paper/2020/file/c8512d142a2d849725f31a9a7a361ab9-Paper.pdf>.
- Zainab, A, Syed, D, dan Al-Thani, D, 2019, Deployment of deep learning models to mobile devices for spam classification. In *Proceedings - 2019 IEEE 1st International Conference on Cognitive Machine Intelligence, CogMI 2019*, pages 112–117, Los Angeles, CA, USA. IEEE. ISBN 9781728167374. doi: 10.1109/CogMI48466.2019.00024. URL <https://ieeexplore.ieee.org/document/8998978>.
- Zhang, C, Liu, C, Zhang, X, dan Almpandis, G, 2017, *An up-to-date comparison of state-of-the-art classification algorithms*. *Expert Systems with Applications*,

82:128–150. ISSN 09574174. doi: 10.1016/j.eswa.2017.04.003. URL <http://dx.doi.org/10.1016/j.eswa.2017.04.003>.

Zhang, L dan Moldovan, D, 2018, *Rule-based vs. Neural Net Approaches to Semantic Textual Similarity. Proceedings of the First Workshop on Linguistic Resources for Natural Language Processing*, pages 12–17. URL <https://www.aclweb.org/anthology/W18-3803>.

Zhang, W dan Sun, H.-M, jan 2017, Instagram Spam Detection. In *2017 IEEE 22nd Pacific Rim International Symposium on Dependable Computing (PRDC)*, pages 227–228. IEEE. ISBN 978-1-5090-5652-1. doi: 10.1109/PRDC.2017.43. URL <http://ieeexplore.ieee.org/document/7920623/>.

Zhang, X, Zhao, J. Z, dan LeCun, Y, 2015a, Character-level Convolutional Networks for TextClassification. In *NIPS'15: Proceedings of the 28th International Conference on Neural Information Processing Systems*, pages 649–657. URL <https://dl.acm.org/doi/10.5555/2969239.2969312>.

Zhang, Y, Chen, M, dan Liu, L, 2015b, A review on text mining. In *Proceedings of the IEEE International Conference on Software Engineering and Service Sciences, ICSESS*, volume 2015-November, pages 681–685, Beijing, China. IEEE. ISBN 9781479983520. doi: 10.1109/ICSESS.2015.7339149. URL <https://ieeexplore.ieee.org/document/7339149>.

Zhao, J, Lan, M, Niu, Z. Y, dan Lu, Y, 2015, Integrating word embeddings and traditional NLP features to measure textual entailment and semantic relatedness of sentence pairs. In *Proceedings of the International Joint Conference on Neural Networks*, Killarney, Ireland. IEEE. ISBN 9781479919604. doi: 10.1109/IJCNN.2015.7280462. URL <https://ieeexplore.ieee.org/document/7280462>.

Zhao, J, Zhu, T, dan Lan, M, 2014, ECNU: One Stone Two Birds: Ensemble of Heterogenous Measures for Semantic Relatedness and Textual Entailment. In *Proceedings of the 8th International Workshop on Semantic Evaluation (SemEval 2014)*, pages 271–277, Stroudsburg, PA, USA. Association for Computational Linguistics. doi: 10.3115/v1/S14-2044. URL <http://aclweb.org/anthology/S14-2044>.