

DAFTAR PUSTAKA

- Cheng, X., Bowden, M., Bhange, B. R., Goyal, P., Packer, T. dan Javed, F. (2021), ‘An End-to-End Solution for Named Entity Recognition in eCommerce Search’, *Proceedings of the AAAI Conference on Artificial Intelligence* **35**(17), 15098–15106.
- Dai, Z., Wang, X., Ni, P., Li, Y., Li, G. dan Bai, X. (2019), Named Entity Recognition Using BERT BiLSTM CRF for Chinese Electronic Health Records, in ‘2019 12th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI)’, pp. 1–5.
- Devlin, J., Chang, M.-W., Lee, K. dan Toutanova, K. (2019), BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding, in J. Burstein, C. Doran dan T. Solorio, eds, ‘Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers)’, Association for Computational Linguistics, Minneapolis, Minnesota, pp. 4171–4186.
- Gou, J., Yu, B., Maybank, S. J. dan Tao, D. (2021), ‘Knowledge Distillation: A Survey’, *International Journal of Computer Vision* **129**(6), 1789–1819.
- Goyal, S., Choudhury, A. R., Raje, S. M., Chakaravarthy, V. T., Sabharwal, Y. dan Verma, A. (2020), PoWER-BERT: accelerating BERT inference via progressive word-vector elimination, in ‘Proceedings of the 37th International Conference on Machine Learning’, Vol. 119 of *ICML’20*, JMLR.org, pp. 3690–3699.
- Grishman, R. dan Sundheim, B. (1996), Message Understanding Conference- 6: A brief history, in ‘COLING 1996 Volume 1: The 16th International Conference on Computational Linguistics’.
- Hinton, G., Vinyals, O. dan Dean, J. (2015), ‘Distilling the Knowledge in a Neural Network’. arXiv:1503.02531 [stat].
- Huang, Z., Xu, W. dan Yu, K. (2015), ‘Bidirectional LSTM-CRF Models for Sequence Tagging’. arXiv:1508.01991 [cs].
- Huda, N., Ayu, D. dan Septyarini, R. (2025), Digital Economy Outlook 2025, Technical report.

- Jehangir, B., Radhakrishnan, S. dan Agarwal, R. (2023), 'A survey on Named Entity Recognition datasets, tools, and methodologies', *Natural Language Processing Journal* **3**, 100017.
- Jiao, X., Yin, Y., Shang, L., Jiang, X., Chen, X., Li, L., Wang, F. dan Liu, Q. (2020), TinyBERT: Distilling BERT for Natural Language Understanding, in T. Cohn, Y. He dan Y. Liu, eds, 'Findings of the Association for Computational Linguistics: EMNLP 2020', Association for Computational Linguistics, Online, pp. 4163–4174.
- Lafferty, J. D., McCallum, A. dan Pereira, F. C. N. (2001), Conditional Random Fields: Probabilistic Models for Segmenting and Labeling Sequence Data, in 'Proceedings of the Eighteenth International Conference on Machine Learning', ICML '01, Morgan Kaufmann Publishers Inc., San Francisco, CA, USA, pp. 282–289.
- Lample, G., Ballesteros, M., Subramanian, S., Kawakami, K. dan Dyer, C. (2016), Neural Architectures for Named Entity Recognition, in K. Knight, A. Nenkova dan O. Rambow, eds, 'Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies', Association for Computational Linguistics, San Diego, California, pp. 260–270.
- Li, D., Savova, G. dan Kipper-Schuler, K. (2008), Conditional Random Fields and Support Vector Machines for Disorder Named Entity Recognition in Clinical Texts, in D. Demner-Fushman, S. Ananiadou, K. B. Cohen, J. Pestian, J. Tsujii dan B. Webber, eds, 'Proceedings of the Workshop on Current Trends in Biomedical Natural Language Processing', Association for Computational Linguistics, Columbus, Ohio, pp. 94–95.
- Liangde, L. I., Xiujuan, W., Mengzhen, K., Jing, H. U. A. dan Menghan, F. a. N. (2021), 'Agricultural Named Entity Recognition Based on Semantic Aggregation and Model Distillation', *Smart Agriculture* **3**(1), 118–128.
- Lin, B. Y., Xu, F., Luo, Z. dan Zhu, K. (2017), Multi-channel BiLSTM-CRF Model for Emerging Named Entity Recognition in Social Media, in L. Derczynski, W. Xu, A. Ritter dan T. Baldwin, eds, 'Proceedings of the 3rd Workshop on Noisy User-generated Text', Association for Computational Linguistics, Copenhagen, Denmark, pp. 160–165.

- Luo, L., Yang, Z., Yang, P., Zhang, Y., Wang, L., Lin, H. dan Wang, J. (2018), ‘An attention-based BiLSTM-CRF approach to document-level chemical named entity recognition’, *Bioinformatics* **34**(8), 1381–1388.
- McCallum, A. dan Li, W. (2003), Early results for Named Entity Recognition with Conditional Random Fields, Feature Induction and Web-Enhanced Lexicons, in ‘Proceedings of the Seventh Conference on Natural Language Learning at HLT-NAACL 2003’, pp. 188–191.
- Palen-Michel, C., Liang, L., Wu, Z. dan Lignos, C. (2024), QueryNER: Segmentation of E-commerce Queries, in N. Calzolari, M.-Y. Kan, V. Hoste, A. Lenci, S. Sak-ti dan N. Xue, eds, ‘Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)’, ELRA and ICCL, Torino, Italia, pp. 13455–13470.
- Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., Blondel, M., Prettenhofer, P., Weiss, R., Dubourg, V., Vanderplas, J., Passos, A., Cour-napeau, D., Brucher, M., Perrot, M. dan Duchesnay, Æ. (2011), ‘Scikit-learn: Machine Learning in Python’, *Journal of Machine Learning Research* **12**(85), 2825–2830.
- Sanh, V., Debut, L., Chaumond, J. dan Wolf, T. (2020), ‘DistilBERT, a distilled version of BERT: smaller, faster, cheaper and lighter’. arXiv:1910.01108 [cs].
- Shah, S. A. A., Ali Masood, M. dan Yasin, A. (2022), ‘Dark Web: E-Commerce Information Extraction Based on Name Entity Recognition Using Bidirectional-LSTM’, *IEEE Access* **10**, 99633–99645.
- SITI, A. (2021), PENERAPAN NAMED ENTITY RECOGNITION UNTUK MENGENALI FITUR PRODUK PADA ECOMMERCE MENGGUNAKAN RULE TEMPLATE DAN NAIVE BAYES CLASIFIER, S1, Universitas Malikussaleh.
- Souza, F., Nogueira, R. dan Lotufo, R. (2020), ‘Portuguese Named Entity Recognition using BERT-CRF’. arXiv:1909.10649 [cs].
- Statista (2025), ‘Number of users of e-commerce in indonesia from 2017 to 2029 (in millions) [graph]’. Retrieved August 19, 2025.

- Sun, C., Yang, Z., Wang, L., Zhang, Y., Lin, H. dan Wang, J. (2021), 'Biomedical named entity recognition using BERT in the machine reading comprehension framework', *Journal of Biomedical Informatics* **118**, 103799. Publisher: Elsevier BV.
- Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, L. dan Polosukhin, I. (2017), Attention is All you Need, in 'Advances in Neural Information Processing Systems', Vol. 30, Curran Associates, Inc.
- Yadav, V. dan Bethard, S. (2018), A survey on recent advances in named entity recognition from deep learning models, in E. M. Bender, L. Derczynski dan P. Isabelle, eds, 'Proceedings of the 27th International Conference on Computational Linguistics', Association for Computational Linguistics, Santa Fe, New Mexico, USA, pp. 2145–2158.
- Yingcheng, Z., Yang, Y., Rui, J., Bing, Q., Lijun, Z. dan Xiaolei, R. (2019), 'BiLSTM-CRF-based Business Information Entity Recognition Model', *Computer Engineering* **45**(5), 308.
- Zaratiana, U., El khbir, N., Holat, P., Tomeh, N. dan Charnois, T. (2022), Global Span Selection for Named Entity Recognition, in W. Han, Z. Zheng, Z. Lin, L. Jin, Y. Shen, Y. Kim dan K. Tu, eds, 'Proceedings of the Workshop on Unimodal and Multimodal Induction of Linguistic Structures (UM-IoS)', Association for Computational Linguistics, Abu Dhabi, United Arab Emirates (Hybrid), pp. 11–17.
- Zhou, X., Zhang, X., Tao, C., Chen, J., Xu, B., Wang, W. dan Xiao, J. (2021), Multi-Grained Knowledge Distillation for Named Entity Recognition, in K. Toutanova, A. Rumshisky, L. Zettlemoyer, D. Hakkani-Tur, I. Beltagy, S. Bethard, R. Cotterell, T. Chakraborty dan Y. Zhou, eds, 'Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies', Association for Computational Linguistics, Online, pp. 5704–5716.