

DAFTAR PUSTAKA

- [1] L. S. Surya, “Hubungan faktor lokal, faktor sistemik dan faktor perilaku terhadap kejadian penyakit periodontal di Indonesia (Analisis Riskesdas),” *Makassar Dental Journal*, vol. 8, no. 2, 2019.
- [2] W. H. Organization, “Global oral health status report: towards universal health coverage for oral health by 2030,” in *Global oral health status report: towards universal health coverage for oral health by 2030*, 2022.
- [3] L. T. Marthinu and M. Bidjuni, “Penyakit Karies Gigi Pada Personil Detasemen Gegana Satuan Brimob Polda Sulawesi Utara Tahun 2019,” *JIGIM (Jurnal Ilmiah Gigi dan Mulut)*, vol. 3, no. 2, pp. 58–64, 2020.
- [4] W. H. Organization, “Oral Health Indonesia 2022 country profile,” Nov. 2022.
- [5] S. Susilawati *et al.*, “Indonesian Oral Health Survey Implementation-National Basic Health Research (RISKESDAS) 2018,” *Monograph Press*, vol. 1, no. 1, 2020.
- [6] N. R. P. Gofur, A. Z. Z. Aghasy, and A. R. P. Gofur, “Spatial distribution analysis of dentists, dental technicians, and dental therapists in Indonesia,” *F1000Res*, vol. 10, 2021, doi: 10.12688/f1000research.50869.1.
- [7] R. Z. Ibrahim and M. Rahmah, “PERIODONTITIS DAN PENYAKIT KARDIOVASKULAR (Tinjauan Pustaka),” *Cakradonya Dental Journal*, vol. 12, no. 1, pp. 24–29, 2020.
- [8] Y. N. Istiqomah and A. Fadlil, “Sistem pakar untuk mendiagnosa penyakit saluran pencernaan menggunakan metode Dempster Shafer,” Universitas Ahmad Dahlan, 2013.
- [9] H. Mohammad-Rahimi *et al.*, “Deep learning for caries detection: A systematic review,” *J Dent*, vol. 122, p. 104115, 2022.
- [10] Z. Zou, K. Chen, Z. Shi, Y. Guo, and J. Ye, “Object detection in 20 years: A survey,” *Proceedings of the IEEE*, 2023.
- [11] A. Juyal, H. Tiwari, U. K. Singh, N. Kumar, and S. Kumar, “Dental Caries Detection Using Faster R-CNN and YOLO V3,” in *ITM Web of Conferences*, EDP Sciences, 2023.
- [12] M. Estai *et al.*, “Evaluation of a deep learning system for automatic detection of proximal surface dental caries on bitewing radiographs,” *Oral Surg Oral Med Oral Pathol Oral Radiol*, vol. 134, no. 2, pp. 262–270, 2022.

- [13] Z.-Q. Zhao, P. Zheng, S. Xu, and X. Wu, "Object detection with deep learning: A review," *IEEE Trans Neural Netw Learn Syst*, vol. 30, no. 11, pp. 3212–3232, 2019.
- [14] Y. Liu, "An improved faster R-CNN for object detection," in *2018 11th International Symposium on Computational Intelligence and Design (ISCID)*, IEEE, 2018, pp. 119–123.
- [15] M. Li, Z. Zhang, L. Lei, X. Wang, and X. Guo, "Agricultural greenhouses detection in high-resolution satellite images based on convolutional neural networks: Comparison of faster R-CNN, YOLO v3 and SSD," *Sensors*, vol. 20, no. 17, p. 4938, 2020.
- [16] S. Ren, K. He, R. Girshick, and J. Sun, "Faster r-cnn: Towards real-time object detection with region proposal networks," *Adv Neural Inf Process Syst*, vol. 28, 2015.
- [17] M. T. G. Thanh, N. Van Toan, V. T. N. Ngoc, N. T. Tra, C. N. Giap, and D. M. Nguyen, "Deep Learning Application in Dental Caries Detection Using Intraoral Photos Taken by Smartphones," *Applied Sciences*, vol. 12, no. 11, p. 5504, 2022.
- [18] B. Thanathornwong and S. Suebnukarn, "Automatic detection of periodontal compromised teeth in digital panoramic radiographs using faster regional convolutional neural networks," *Imaging Sci Dent*, vol. 50, no. 2, pp. 169–174, Jun. 2020, doi: 10.5624/isd.2020.50.2.169.
- [19] L. Liu, "A Smart Dental Health-IoT Platform Based on Intelligent Hardware, Deep Learning, and Mobile Terminal," *IEEE J Biomed Health Inform*, vol. 24, no. 3, pp. 898–906, 2020, doi: 10.1109/JBHI.2019.2919916.
- [20] L. Alzubaidi *et al.*, "Towards a better understanding of transfer learning for medical imaging: a case study," *Applied Sciences*, vol. 10, no. 13, p. 4523, 2020.
- [21] K. Weiss, T. M. Khoshgoftaar, and D. Wang, "A survey of transfer learning," *J Big Data*, vol. 3, no. 1, pp. 1–40, 2016.
- [22] Y. Zhang, J. Li, S. Wei, F. Zhou, and D. Li, "Heartbeats classification using hybrid time-frequency analysis and transfer learning based on ResNet," *IEEE J Biomed Health Inform*, vol. 25, no. 11, pp. 4175–4184, 2021.
- [23] J. H. Lee, D. H. Kim, S. N. Jeong, and S. H. Choi, "Detection and diagnosis of dental caries using a deep learning-based convolutional neural network algorithm," *J Dent*, vol. 77, pp. 106–111, Oct. 2018, doi: 10.1016/j.jdent.2018.07.015.

- [24] X. Zhang *et al.*, “Development and evaluation of deep learning for screening dental caries from oral photographs,” *Oral Dis*, vol. 28, no. 1, pp. 173–181, 2022.
- [25] Y. Li, Z. Ding, C. Zhang, Y. Wang, and J. Chen, “SAR ship detection based on resnet and transfer learning,” in *IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium*, IEEE, 2019, pp. 1188–1191.
- [26] M. Farooq and A. Hafeez, “Covid-resnet: A deep learning framework for screening of covid19 from radiographs,” *arXiv preprint arXiv:2003.14395*, 2020.
- [27] F. Fang, L. Li, H. Zhu, and J.-H. Lim, “Combining faster R-CNN and model-driven clustering for elongated object detection,” *IEEE Transactions on Image Processing*, vol. 29, pp. 2052–2065, 2019.
- [28] H. Chen *et al.*, “A deep learning approach to automatic teeth detection and numbering based on object detection in dental periapical films,” *Sci Rep*, vol. 9, no. 1, Dec. 2019, doi: 10.1038/s41598-019-40414-y.
- [29] A. S. B. Reddy and D. S. Juliet, “Transfer learning with ResNet-50 for malaria cell-image classification,” in *2019 International Conference on Communication and Signal Processing (ICCSP)*, IEEE, 2019, pp. 945–949.
- [30] J. Kim, H. S. Lee, I. S. Song, and K. H. Jung, “DeNTNet: Deep Neural Transfer Network for the detection of periodontal bone loss using panoramic dental radiographs,” *Sci Rep*, vol. 9, no. 1, Dec. 2019, doi: 10.1038/s41598-019-53758-2.
- [31] K. S. Lee, S. K. Jung, J. J. Ryu, S. W. Shin, and J. Choi, “Evaluation of transfer learning with deep convolutional neural networks for screening osteoporosis in dental panoramic radiographs,” *J Clin Med*, vol. 9, no. 2, Feb. 2020, doi: 10.3390/jcm9020392.
- [32] J. H. Lee and S. N. Jeong, “Efficacy of deep convolutional neural network algorithm for the identification and classification of dental implant systems, using panoramic and periapical radiographs: A pilot study,” *Medicine*, vol. 99, no. 26, p. e20787, Jun. 2020, doi: 10.1097/MD.00000000000020787.
- [33] K. He, X. Zhang, S. Ren, and J. Sun, “Deep residual learning for image recognition,” in *Proceedings of the IEEE conference on computer vision and pattern recognition*, 2016, pp. 770–778.
- [34] M. A. Peres, “Oral diseases: a global public health challenge,” *The Lancet*, vol. 394, no. 10194, pp. 249–260, 2019, doi: 10.1016/S0140-6736(19)31146-8.

- [35] W. H. Organization, "Oral Health Indonesia 2022 country profile," in *Oral Health Indonesia 2022 country profile*, 2022.
- [36] A. H. Ali *et al.*, "Self-limiting versus conventional caries removal: a randomized clinical trial," *J Dent Res*, vol. 97, no. 11, pp. 1207–1213, 2018.
- [37] O. Fejerskov, B. Nyvad, and E. Kidd, *Dental caries: the disease and its clinical management*. John Wiley & Sons, 2015.
- [38] N. I. of Health, "Oral health in America: advances and challenges," *Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research*, 2021.
- [39] R. H. Selwitz, A. I. Ismail, and N. B. Pitts, "Dental caries," *The Lancet*, vol. 369, no. 9555, pp. 51–59, 2007.
- [40] J. S. Zhang, C.-H. Chu, and O. Y. Yu, "Oral microbiome and dental caries development," *Dent J (Basel)*, vol. 10, no. 10, p. 184, 2022.
- [41] P. Reddy, J. Krithikadatta, V. Srinivasan, S. Raghu, and N. Velumurugan, "Dental caries profile and associated risk factors among adolescent school children in an urban South-Indian City," *Oral Health Prev Dent*, vol. 18, no. 1, pp. 379–386, 2020.
- [42] T. A. Jovina and M. A. L. Suratni, "Hubungan antara Perilaku Sikat Gigi, Merokok, dan Diabetes Melitus dengan Status Karies Gigi di Indonesia: Analisis Data Riskesdas 2013," *Jurnal Penelitian Dan Pengembangan Pelayanan Kesehatan*, pp. 57–66, 2019.
- [43] N. Amiqoh, S. Prasetyowati, and I. C. Mahirawatie, "Faktor resiko karies gigi pada anak tunagrahita," *Jurnal Ilmiah Keperawatan Gigi*, vol. 3, no. 1, pp. 28–38, 2022.
- [44] S. Dong, P. Wang, and K. Abbas, "A survey on deep learning and its applications," *Comput Sci Rev*, vol. 40, p. 100379, 2021.
- [45] S. Li, Y. Q. Deng, Z. L. Zhu, H. L. Hua, and Z. Z. Tao, "A comprehensive review on radiomics and deep learning for nasopharyngeal carcinoma imaging," *Diagnostics*, vol. 11, no. 9. MDPI, Sep. 01, 2021. doi: 10.3390/diagnostics11091523.
- [46] Z. Li, F. Liu, W. Yang, S. Peng, and J. Zhou, "A survey of convolutional neural networks: analysis, applications, and prospects," *IEEE Trans Neural Netw Learn Syst*, 2021.
- [47] K. O'Shea and R. Nash, "An introduction to convolutional neural networks," *arXiv preprint arXiv:1511.08458*, 2015.

- [48] Z. Li, F. Liu, W. Yang, S. Peng, and J. Zhou, “A survey of convolutional neural networks: analysis, applications, and prospects,” *IEEE Trans Neural Netw Learn Syst*, 2021.
- [49] L. Alzubaidi *et al.*, “Review of deep learning: concepts, CNN architectures, challenges, applications, future directions,” *J Big Data*, vol. 8, no. 1, Dec. 2021, doi: 10.1186/s40537-021-00444-8.
- [50] S. Albawi, O. Bayat, S. Al-Azawi, and O. N. Ucan, “Social touch gesture recognition using convolutional neural network,” *Comput Intell Neurosci*, vol. 2018, 2018, doi: 10.1155/2018/6973103.
- [51] M. D. Zeiler, “Hierarchical convolutional deep learning in computer vision,” New York University, 2013.
- [52] Y. Guo, Y. Liu, A. Oerlemans, S. Lao, S. Wu, and M. S. Lew, “Deep learning for visual understanding: A review,” *Neurocomputing*, vol. 187, pp. 27–48, Apr. 2016, doi: 10.1016/j.neucom.2015.09.116.
- [53] S. Sharma, S. Sharma, and A. Athaiya, “Activation functions in neural networks,” *towards data science*, vol. 6, no. 12, pp. 310–316, 2017.
- [54] C. Nwankpa, W. Ijomah, A. Gachagan, and S. Marshall, “Activation functions: Comparison of trends in practice and research for deep learning,” *arXiv preprint arXiv:1811.03378*, 2018.
- [55] D. Bhatt *et al.*, “Cnn variants for computer vision: History, architecture, application, challenges and future scope,” *Electronics (Switzerland)*, vol. 10, no. 20. MDPI, Oct. 01, 2021. doi: 10.3390/electronics10202470.
- [56] T. Peirelinck *et al.*, “Transfer learning in demand response: A review of algorithms for data-efficient modelling and control,” *Energy and AI*, vol. 7, p. 100126, 2022.
- [57] Y. Gao, Y. Ruan, C. Fang, and S. Yin, “Deep learning and transfer learning models of energy consumption forecasting for a building with poor information data,” *Energy Build*, vol. 223, p. 110156, 2020.
- [58] F. Zhuang *et al.*, “A comprehensive survey on transfer learning,” *Proceedings of the IEEE*, vol. 109, no. 1, pp. 43–76, 2020.
- [59] O. Faruk *et al.*, “A novel and robust approach to detect tuberculosis using transfer learning,” *J Healthc Eng*, vol. 2021, 2021.
- [60] M. Raghu, C. Zhang, J. Kleinberg, and S. Bengio, “Transfusion: Understanding transfer learning for medical imaging,” *Adv Neural Inf Process Syst*, vol. 32, 2019.

- [61] M. Romero, Y. Interian, T. Solberg, and G. Valdes, “Targeted transfer learning to improve performance in small medical physics datasets,” *Med Phys*, vol. 47, no. 12, pp. 6246–6256, 2020.
- [62] B. S. Negara, E. Satria, S. Sanjaya, and D. R. D. Santoso, “ResNet-50 for classifying Indonesian batik with data augmentation,” in *2021 International Congress of Advanced Technology and Engineering (ICOTEN)*, IEEE, 2021, pp. 1–4.
- [63] R. Sun, “Optimization for deep learning: theory and algorithms,” *arXiv preprint arXiv:1912.08957*, 2019.
- [64] S. Ruder, “An overview of gradient descent optimization algorithms,” *arXiv preprint arXiv:1609.04747*, 2016.
- [65] D. Choi, C. J. Shallue, Z. Nado, J. Lee, C. J. Maddison, and G. E. Dahl, “On empirical comparisons of optimizers for deep learning,” *arXiv preprint arXiv:1910.05446*, 2019.
- [66] D. P. Kingma and J. Ba, “Adam: A method for stochastic optimization,” *arXiv preprint arXiv:1412.6980*, 2014.
- [67] Y. He, C. Zhu, J. Wang, M. Savvides, and X. Zhang, “Bounding box regression with uncertainty for accurate object detection,” in *Proceedings of the IEEE/CVF conference on computer vision and pattern recognition*, 2019, pp. 2888–2897.
- [68] Y.-F. Zhang, W. Ren, Z. Zhang, Z. Jia, L. Wang, and T. Tan, “Focal and efficient IOU loss for accurate bounding box regression,” *Neurocomputing*, vol. 506, pp. 146–157, 2022.
- [69] F. Wei, X. Sun, H. Li, J. Wang, and S. Lin, “Point-set anchors for object detection, instance segmentation and pose estimation,” in *Computer Vision—ECCV 2020: 16th European Conference, Glasgow, UK, August 23–28, 2020, Proceedings, Part X 16*, Springer, 2020, pp. 527–544.
- [70] X. Deng, Q. Liu, Y. Deng, and S. Mahadevan, “An improved method to construct basic probability assignment based on the confusion matrix for classification problem,” *Inf Sci (N Y)*, vol. 340–341, pp. 250–261, 2016, doi: <https://doi.org/10.1016/j.ins.2016.01.033>.
- [71] J. Xu, Y. Zhang, and D. Miao, “Three-way confusion matrix for classification: A measure driven view,” *Inf Sci (N Y)*, vol. 507, pp. 772–794, Jan. 2020, doi: [10.1016/j.ins.2019.06.064](https://doi.org/10.1016/j.ins.2019.06.064).
- [72] Z. Zhang, W. Wang, A. An, Y. Qin, and F. Yang, “A human activity recognition method using wearable sensors based on convtransformer model,” *Evolving Systems*, pp. 1–17, 2023.

- [73] D. Chicco, N. Tötsch, and G. Jurman, “The Matthews correlation coefficient (MCC) is more reliable than balanced accuracy, bookmaker informedness, and markedness in two-class confusion matrix evaluation,” *BioData Min*, vol. 14, no. 1, pp. 1–22, 2021.
- [74] C. Sammut and G. I. Webb, *Encyclopedia of machine learning*. Springer Science & Business Media, 2011.
- [75] S. A. Hicks *et al.*, “On evaluation metrics for medical applications of artificial intelligence,” *Sci Rep*, vol. 12, no. 1, p. 5979, 2022.
- [76] R. Padilla, W. L. Passos, T. L. B. Dias, S. L. Netto, and E. A. B. Da Silva, “A comparative analysis of object detection metrics with a companion open-source toolkit,” *Electronics (Basel)*, vol. 10, no. 3, p. 279, 2021.
- [77] R. Padilla, S. L. Netto, and E. A. B. Da Silva, “A survey on performance metrics for object-detection algorithms,” in *2020 international conference on systems, signals and image processing (IWSSIP)*, IEEE, 2020, pp. 237–242.
- [78] T. Developers, “TensorFlow,” *Zenodo*, 2022.
- [79] B. Pang, E. Nijkamp, and Y. N. Wu, “Deep learning with tensorflow: A review,” *Journal of Educational and Behavioral Statistics*, vol. 45, no. 2, pp. 227–248, 2020.
- [80] The TensorFlow Authors, “TensorFlow Object Detection API,” https://github.com/tensorflow/models/tree/master/research/object_detection, 2020.
- [81] The TensorFlow Authors, “TensorFlow 2 Detection Model Zoo,” https://github.com/tensorflow/models/blob/master/research/object_detection/g3doc/tf2_detection_zoo.md, 2017.
- [82] The TensorFlow Authors, “Configuring the Object Detection Training Pipeline,” https://github.com/tensorflow/models/blob/master/research/object_detection/g3doc/configuring_jobs.md, 2017.
- [83] S. Jiang, H. Qin, B. Zhang, and J. Zheng, “Optimized loss functions for object detection and application on nighttime vehicle detection,” *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, vol. 236, no. 7, pp. 1568–1578, 2022.
- [84] Rafael Padilla, Wesley L. Passos, Thadeu L. B. Dias, Sergio L. Netto, and Eduardo A. B. da Silva, “Review object detection metrics,” https://github.com/rafaelpadilla/review_object_detection_metrics, Aug. 20, 2022.

