REFERENSI

[1] Globocan, "Indonesia - Global Cancer Observatory," *Globocan*, 2020. https://gco.iarc.fr/today/data/factsheets/populations/360-indonesia-fact-sheets.pdf (accessed Nov. 05, 2021).

[2] Badan PPSDM Kesehatan, "Rekapitulasi SDM Kesehatan yang didayagunakan di Rumah Sakit di Indonesia," *Badan PPSDM Kesehatan - Kementrian Kesehatan Republik Indonesia*, 2021. http://bppsdmk.kemkes.go.id/info_sdmk/info/distribusi_sdmk_rs (accessed Nov. 05, 2021).

[3] R. H. Daffner and M. S. Hartman, *Clinical Radiology: The Essentials*, 4th ed. 2014.

[4] L. Eldridge, "Use of Chest X-Ray in the Diagnosis of Lung Cancer," *Verywell Health*, Sep. 20, 2020. https://www.verywellhealth.com/chest-x-rays-for-lung-cancer-diagnosis-4107046 (accessed Nov. 05, 2021).

[5] E. K. Dey and H. M. Muctadir, "Chest X-Ray Analysis to Detect Mass Tissue in Lung," May 2014.

[6] S. Krome, "Radiologische Diagnostik mit dem Röntgen-Thorax beginnen," *Pneumologie*, vol. 75, no. 10. Georg Thieme Verlag, p. 745, Oct. 01, 2021. doi: 10.1183/13993003.04188-2020.

[7] K. Loverdos, A. Fotiadis, C. Kontogianni, M. Iliopoulou, and M. Gaga, "Lung nodules: A comprehensive review on current approach and management," *Annals of Thoracic Medicine*, vol. 14, no. 4, pp. 226–238, Oct. 2019, doi: 10.4103/atm.ATM_110_19.

[8] G. Dougherty, *Medical Image Processing: Techniques and Applications*. 2011. [Online]. Available: http://www.springer.com/series/3740

[9] D. R. I. M. Setiadi, "PSNR vs SSIM: imperceptibility quality assessment for image steganography," *Multimedia Tools and Applications*, vol. 80, no. 6, pp. 8423–8444, Mar. 2021, doi: 10.1007/s11042-020-10035-z.

[10] B. S. Min, D. K. Lim, S. J. Kim, and J. H. Lee, "A novel method of determining parameters of CLAHE based on image entropy," *International Journal of Software Engineering and its Applications*, vol. 7, no. 5, pp. 113–120, 2013, doi: 10.14257/ijseia.2013.7.5.11.

[11] F. Chollet, *Deep Learning with Python*. 2018.

[12] J. Kacprzyk, *Artificial Neural Network Modelling*. 2016. [Online]. Available: http://www.springer.com/series/7092

[13] W. Pitts and J. Simon, "HOW WE KNOW UNIVERSALS THE PERCEPTION OF AUDITORY AND VISUAL FORMS," *BULLETIN OF MATHFA~IATICAL BIOPHYSICS*, vol. 9, 1947.

[14] D. P. Setiawan, "Implementasi Metode Multilayer Perceptron (MLP) di R Studio Untuk Prediksi Tingkat Inflasi," *https://medium.com/@devinapermata/implementasi-metode-multilayer-perceptron-mlp-di-r-studio-untuk-prediksi-tingkat-inflasi-c002e5c98be3*, Jul. 11, 2020.

[15] L. Lu, Y. Zheng, G. Carneiro, · Lin, and Y. Editors, *Advances in Computer Vision and Pattern Recognition Deep Learning and Convolutional Neural Networks for Medical Image Computing*. 2017. [Online]. Available: http://www.springer.com/series/4205

[16] A. Qayyum, S. M. Anwar, M. Awais, and M. Majid, "Medical image retrieval using deep convolutional neural network," *Neurocomputing*, vol. 266, pp. 8–20, Nov. 2017, doi: 10.1016/j.neucom.2017.05.025.

[17] H. Habibi Aghdam and E. Jahani Heravi, *Guide to Convolutional Neural Networks*. Springer International Publishing, 2017. doi: 10.1007/978-3-319-57550-6.

[18] H. Mubarok, "Identifikasi Ekpresi Wajah Berbasis Citra Menggunakan Metode Convolutional Neural Network (CNN)," Malang, 2019.

[19] X. Jiang, A. Hadid, Y. Pang, E. Granger, and X. Feng, *Deep learning in object detection and recognition*. Springer Singapore, 2019. doi: 10.1007/978-981-10-5152-4.

[20] N. Kirthika and B. Sargunam, "YOLOv4 for multi-class artefact detection in endoscopic images," in *2021 3rd International Conference on Signal Processing and Communication, ICPSC 2021*, May 2021, pp. 73–77. doi: 10.1109/ICSPC51351.2021.9451761.

[21] R. Chopade, A. Stanam, and S. Pawar, "Single shot detector application for image disease localization 1 2 Authors," 2021, doi: 10.1101/2021.09.21.461307.

[22] V. Verdhan, *Computer Vision Using Deep Learning*. Apress, 2021. doi: 10.1007/978-1-4842-6616-8.

[23] R. al Islam, "Object Recognition Based on Deep Learning Object Recognition Based on Deep Learning View project," 2019. [Online]. Available: https://www.researchgate.net/publication/336146693

[24] D. Ribli, A. Horváth, Z. Unger, P. Pollner, and I. Csabai, "Detecting and classifying lesions in mammograms with Deep Learning," *Scientific Reports*, vol. 8, no. 1, Dec. 2018, doi: 10.1038/s41598-018-22437-z.

[25] J. Redmon, S. Divvala, R. Girshick, and A. Farhadi, "You Only Look Once: Unified, Real-Time Object Detection," Jun. 2015, [Online]. Available: http://arxiv.org/abs/1506.02640

[26] J. Redmon and A. Farhadi, "YOLOv3: An Incremental Improvement," Apr. 2018, [Online]. Available: http://arxiv.org/abs/1804.02767

[27] K. Koonsanit, S. Thongvigitmanee, N. Pongnapang, and P. Thajchayapong, "Image Enhancement on Digital X-ray Images Using N-CLAHE," 2017. doi: 10.1109/BMEiCON.2017.8229130.

[28] S. J. Attia, "Enhancement of Chest X-ray Images for Diagnosis Purposes," Online, 2016. [Online]. Available: www.iiste.org

[29] Z. A. Matondang, "Penerapan Metode Contrast Limited Adaptive Histogram Equalization (CLAHE) pada Citra Digital untuk Memperbaiki Gambar X-ray," vol. 3, no. 2, pp. 24–29, 2018, Accessed: Nov. 11, 2021. [Online]. Available: https://www.neliti.com/id/publications/283772/penerapan-metode-contrast-limited-adaptive-histogram-equalization-clahe-pada-cit#cite

[30] E. M. Paul, B. Perumal, and M. P. Rajasekaran, "Filters Used in X-Ray Chest Images for Initial Stage Tuberculosis Detection," 2018. doi: 10.1109/ICIRCA.2018.8597334.

[31] Sonali, S. Sahu, A. K. Singh, S. P. Ghrera, and M. Elhoseny, "An approach for de-noising and contrast enhancement of retinal fundus image using CLAHE," *Optics and Laser Technology*, vol. 110, pp. 87–98, Feb. 2019, doi: 10.1016/j.optlastec.2018.06.061.

[32] A. Budhiman, S. Suyanto, and A. Arianto, "Melanoma Cancer Classification Using ResNet with Data Augmentation," 2019. doi: 10.1109/ISRITI48646.2019.9034624.

[33] I. Sirazitdinov, M. Kholiavchenko, R. Kuulev, and B. Ibragimov, "Data Augmentation for Chest Pathologies Classification," in *Scientific Reports*, Dec. 2019, vol. 9, no. 1. doi: 10.1038/s41598-019-42294-8.

[34] J. Garstka and M. Strzlecki, "Pneumonia detection in X-ray chest images based on convolutional neural networks and data augmentation methods," 2020. doi: 10.23919/SPA50552.2020.9241305.

[35] Y. Su, D. Li, and X. Chen, "Lung Nodule Detection based on Faster R-CNN Framework," *Computer Methods and Programs in Biomedicine*, vol. 200, Mar. 2021, doi: 10.1016/j.cmpb.2020.105866.

[36] S. Yao, Y. Chen, X. Tian, and R. Jiang, "Pneumonia Detection Using an Improved Algorithm Based on Faster R-CNN," *Computational and Mathematical Methods in Medicine*, vol. 2021, 2021, doi: 10.1155/2021/8854892.

[37] A. Bochkovskiy, C.-Y. Wang, and H.-Y. M. Liao, "YOLOv4: Optimal Speed and Accuracy of Object Detection," Apr. 2020, [Online]. Available: http://arxiv.org/abs/2004.10934

[38] F. Abdurahman, K. A. Fante, and M. Aliy, "Malaria Parasite Detection in Thick Blood Smear Microscopic Images Using Modified YOLOV3 and YOLOV4 Models Low-complexity Image Encoders for Wireless Capsule Endoscopy View project CerviXpert View project," 2020, doi: 10.21203/rs.3.rs-74079/v1.

[39] L. Wu, J. Ma, Y. Zhao, and H. Liu, "Apple detection in complex scene using the improved yolov4 model," *Agronomy*, vol. 11, no. 3, Mar. 2021, doi: 10.3390/agronomy11030476.

[40] S. Saponara, A. Elhanashi, and Q. Zheng, "Developing a real-time social distancing detection system based on YOLOv4-tiny and bird-eye view for COVID-19," *Journal of Real-Time Image Processing*, Jun. 2022, doi: 10.1007/s11554-022-01203-5.

[41] F. Arifin, H. Artanto, Nurhasanah, and T. S. Gunawan, "Fast COVID-19 Detection of Chest X-Ray Images Using Single Shot Detection MobileNet Convolutional Neural Networks," *Journal of Southwest Jiaotong University*, vol. 56, no. 2, pp. 235–248, Apr. 2021, doi: 10.35741/issn.0258-2724.56.2.19.

[42] X. Gao, J. Xu, C. Luo, J. Zhou, P. Huang, and J. Deng, "Detection of Lower Body for AGV Based on SSD Algorithm with ResNet," *Sensors*, vol. 22, no. 5, Mar. 2022, doi: 10.3390/s22052008.

[43] Raddar, "Nodules in Chest X-rays (JSRT)," *Kaggle*. https://www.kaggle.com/raddar/nodules-in-chest-xrays-jsrt (accessed Nov. 10, 2021).

[44] Maison, T. Lestari, and A. Luthfi, "Retinal Blood Vessel Segmentation using Gaussian Filter," in *Journal of Physics: Conference Series*, Nov. 2019, vol. 1376, no. 1. doi: 10.1088/1742-6596/1376/1/012023.

[45] B. Hunter, S. Hindocha, and R. W. Lee, "The Role of Artificial Intelligence in Early Cancer Diagnosis," *Cancers (Basel)*, vol. 14, no. 6, Mar. 2022, doi: 10.3390/cancers14061524.

[46] T. Gates, "Imutils." Jan. 27, 2015. Accessed: Apr. 14, 2022. [Online]. Available: https://github.com/PyImageSearch/imutils

[47] R. Szeliski Algorithms, "Computer Vision," 2021. [Online]. Available: https://link.springer.com/bookseries/3191

[48] Matworks, "Image Coordinate Systems." https://www.mathworks.com/help/vision/gs/coordinate-systems.html (accessed Apr. 15, 2022).

[49] D. Li, "Computer and Computing Technologies in Agriculture, Volume I," 2007.

[50] L. Cao and H. Shen, "CSS: Handling imbalanced data by improved clustering with stratified sampling," *Concurrency and Computation: Practice and Experience*, vol. 34, no. 2, Jan. 2022, doi: 10.1002/cpe.6071.

[51] AlexeyAB, "YOLOv4/darknet," *github*. 2021. Accessed: Nov. 14, 2021. [Online]. Available: https://github.com/AlexeyAB/darknet

[52] D. Asamoah, E. Ofori, S. Opoku, and J. Danso, "Measuring the Performance of Image Contrast Enhancement Technique," *International Journal of Computer Applications*, vol. 181, no. 22, pp. 6–13, Oct. 2018, doi: 10.5120/ijca2018917899.

[53] A. G. Lalkhen and A. McCluskey, "Clinical tests: Sensitivity and specificity," *Continuing Education in Anaesthesia, Critical Care and Pain*, vol. 8, no. 6, pp. 221–223, 2008, doi: 10.1093/bjaceaccp/mkn041.

[54] Y. Wang *et al.*, "The value of AI in the Diagnosis, Treatment, and Prognosis of Malignant Lung Cancer," *Frontiers in Radiology*, vol. 2, May 2022, doi: 10.3389/fradi.2022.810731.

[55] F. Kanavati *et al.*, "Weakly-supervised learning for lung carcinoma classification using deep learning," *Scientific Reports*, vol. 10, no. 1, Dec. 2020, doi: 10.1038/s41598-020-66333-x.

[56] J. W. Wei, L. J. Tafe, Y. A. Linnik, L. J. Vaickus, N. Tomita, and S. Hassanpour, "Pathologist-level classification of histologic patterns on resected lung adenocarcinoma slides with deep neural networks," *Scientific Reports*, vol. 9, no. 1, Dec. 2019, doi: 10.1038/s41598-019-40041-7.