



## DAFTAR PUSTAKA

- Abraham, N., dan Khan, N. M. (2019). A novel focal Tversky *loss* function with improved attention UNet for lesion segmentation. *Proceedings of the IEEE International Symposium on Biomedical Imaging (ISBI)*.
- Akobeng, A. K. (2007). Understanding diagnostic tests 1: sensitivity, specificity and predictive values. *Acta Paediatrica*, 96(3), 338-341.
- An, Y., Ye, Q., Childs, C. Guo, J. Walsh, J., Dong, R. (2021). Deep convolutional neural network for automatic fault recognition from 3D. Computers and Geosciences, 153, 1-11. doi: <https://doi.org/10.1016/j.cageo.2021.104776>
- Bacic, dkk, 2020, The Usefulness of Seismic Surveys for Geotechnical Engineering in Karst: Some Practical Examples. Geosciences 2020, 10(10), 406.
- Badrinarayanan, V., Kendall, A., dan Cipolla, R. (2017). SegNet: A deep convolutional encoder-decoder architecture for image segmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 39(12), 2481-2495.
- Basir, H, M. Javaherian, A., Yaraki, M, T. (2013). Multi-attribute *ant-tracking* and *neural network* for fault detection: a case study of an Iranian oilfield. Journal of Geophysics and Engineering, 10, 1-5. Doi :[10.1088/1742-2132/10/1/015009](https://doi.org/10.1088/1742-2132/10/1/015009)
- Berman, M., Triki, A. R., dan Blaschko, M. B. (2018). The Lovász-Softmax *loss*: A tractable surrogate for the optimization of the intersection-over-union measure in *neural networks*. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, 4413-4421.
- Bernal, J., Sánchez, J., Vilarino, F., dan Fernández-Esparrach, G. (2015). WCE detection of intestinal lesions: reducing the dataset bias with the use of CNNs. *IEEE Transactions on Medical Imaging*, 35(5), 1202-1211.
- Bishop, C. M. (2006). *Pattern Recognition and Machine learning*. Springer.
- Brown, A., R., 2004, Interpretation of Three-Dimensional Seismic Data: AAPG Memoir 42, 6th Edition, 534 p.
- Chen, L. C., Papandreou, G., Kokkinos, I., Murphy, K., dan Yuille, A. L. (2018). DeepLab: Semantic image segmentation with deep convolutional nets, atrous convolution, and fully connected CRFs. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(4), 834-848.
- Chicco, D., dan Jurman, G. (2020). The advantages of the Matthews correlation coefficient (MCC) over F1 score and accuracy in binary classification evaluation. *BMC Genomics*, 21(1), 1-13.
- Chopra, S., dan Marfurt, K., 2005, Seismic attributes – A Historical Perspective, *Geophysics* Vol 70, No 5, p.3SO-28SO, 32 Figs. SEG 75th Anniversary.
- Chopra, S., dan Marfurt, K., 2007, Seismic Attributes for Prospect Identification and Reservoir Characterization. SEG Geophysical Development series no.11.
- Cunha, A., Pochet, A., Lopes, H., Gattass, M. (2020). Seismic fault detection in real data using transfer learning from a convolutional *neural network* pre-



- trained with synthetic seismic data. *Computers and Geosciences*, 135, 1-6.  
doi: <https://doi.org/10.1016/j.cageo.2019.104344>
- Davis, J., dan Goadrich, M. (2006). The relationship between Precision-Recall and ROC curves. *Proceedings of the 23rd International Conference on Machine learning*, 233-240.
- Drozdzal, M., Vorontsov, E., Chartrand, G., Kadoury, S., dan Pal, C. (2016). The importance of skip connections in biomedical image segmentation. *Deep Learning and Data Labeling for Medical Applications*, 179-187.
- Dumoulin, V., dan Visin, F. (2016). A guide to convolution arithmetic for deep learning. arXiv preprint arXiv:1603.07285.
- Dwihuksna, N., 2020, Seismic and Well Log Based *Machine learning* Facies Classification in the Panoma-Hugoton Field, Kansas and Raudhatain Field, North Kuwait, Colorado School of Mines.
- Everingham, M., Van Gool, L., Williams, C. K., Winn, J., dan Zisserman, A. (2010). The pascal visual object classes (voc) challenge. *International Journal of Computer Vision*, 88(2), 303-338.
- Fawcett, T. (2006). "An introduction to ROC analysis." *Pattern Recognition Letters*, 27(8), 861-874. <https://doi.org/10.1016/j.patrec.2005.10.010>
- Gadallah, M., dan R. Fisher. 2005. Applied seismology: A comprehensive guide to seismic theory and application. Houston, Texas: Library of Congress Cataloging in Publication Data.
- Gadallah, M., dan R. Fisher. 2009. Exploration Geophysics. Springer.
- Garcia-Garcia, A., Orts-Escalano, S., Oprea, S., Villena-Martinez, V., dan Garcia-Rodriguez, J. (2017). A review on deep learning techniques applied to semantic segmentation. *IEEE Transactions on Neural networks and Learning Systems*, 29(10), 3699-3717.
- Goodfellow, I., Bengio, Y., dan Courville, A. (2016). Deep Learning. MIT Press.
- Gray, S. H., dkk. (2001). Seismic migration in the presence of complex geology. *Geophysics*, 66(3), 772-789.
- Hall, R. and Wilson, M. E. J. (2000). Neogene sutures in eastern Indonesia. *Journal of Asian Earth Sciences* 18, 781-808.
- Hall, R., (2009). Sundaland: Basement Character, Structure and Plate Tectonic Development, *Indonesian Pet. Assoc., 33rd Annual Convention Proceeding*.
- Hamilton, W. (1979). Tectonics of the Indonesian region. U.S. *Geological Survey Professional Paper*, 1078, 345.
- He, K., Zhang, X., Ren, S., dan Sun, J. (2015). Delving deep into rectifiers: Surpassing human-level performance on ImageNet classification. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 1026-1034.
- Huang, G., Liu, Z., Van Der Maaten, L., dan Weinberger, K. Q. (2017). Densely connected convolutional networks. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 4700-4708.
- Hubral, P. (1999). *Exploration geophysics*. SEG.



- Islam, M. M. (2023). Application of a Pre-Trained CNN Model for Fault Interpretation. *Applied Sciences*, 13, 1-9. doi: <https://doi.org/10.3390/app132011300>
- Jones, I. F. (2010). An introduction to velocity model building. *EAGE Publications*.
- Kohavi, R. (1995). A study of cross-validation and bootstrap for accuracy estimation and model selection. *Proceedings of the 14th International Joint Conference on Artificial Intelligence*.
- Krizhevsky, A., Sutskever, I., dan Hinton, G. E. (2012). Imagenet classification with deep convolutional neural networks. *Advances in neural information processing systems*, 25.
- LeCun, Y., Bengio, Y., dan Hinton, G. (2015). Deep learning. *Nature*, 521(7553), 436-444.
- Li, X., dan Fan, H. (2019). Patch-based image classification using deep learning. *IEEE Transactions on Image Processing*, 28(3), 1235-1248.
- Lin, T. Y., Goyal, P., Girshick, R., He, K., dan Dollar, P. (2017). *Focal Loss for Dense Object Detection*. *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
- Long, J., Shelhamer, E., dan Darrell, T. (2015). Fully convolutional networks for semantic segmentation. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 3431-3440.
- Ma, Y. Z., 2019, Introduction to Geoscience Data Analytics Using Machine learning, In Quantitative Geosciences: Data Analytics, Geostatistics, Reservoir Characterization and Modeling, 151-171.
- Milletari, F., Navab, N., dan Ahmadi, S. A. (2016). V-Net: Fully convolutional neural networks for volumetric medical image segmentation. *2016 Fourth International Conference on 3D Vision (3DV)*, 565-571.
- Murphy, K. P. (2012). *Machine learning: A Probabilistic Perspective*. MIT Press.
- Nair, V., dan Hinton, G. E. (2010). Rectified linear units improve restricted boltzmann machines. *Proceedings of the 27th international conference on machine learning (ICML-10)*, 807-814.
- Nguyen, T. T., Wang, J., Jin, R., Park, N. I., Bhaduri, M. B., dan Liu, L. (2014). An efficient feature selection method for microarray data based on mutual information and normalized cuts. *International Journal of Machine learning and Cybernetics*, 5(3), 253-263.
- Noh, H., Hong, S., dan Han, B. (2015). Learning deconvolution network for semantic segmentation. *Proceedings of the IEEE International Conference on Computer Vision*, 1520-1528.
- Pan, S. J., Yang, Q., dan Han, J. (2019). A comprehensive survey on transfer learning. *IEEE Transactions on Knowledge and Data Engineering*, 22(10), 1345-1359.
- Paszke, A., Gross, S., Massa, F., Lerer, A., Bradbury, J., Chanan, G., ... dan Chintala, S. (2019). PyTorch: An imperative style, high-performance deep learning library. *Advances in Neural Information Processing Systems (NeurIPS)*, 32, 8026-8037.
- Pereira, L.A.G.R., 2009, Atributos Sísmicos na Caracterização de Reservatórios de Hidrocarbonetos (Seismic Attributes in Hydrocarbon Reservoirs



- Characterization), Departamento de Geociencias Universidade de Aveiro, Aveir.
- Pormes, D. E., 2009, Interpretasi Seismik 3D untuk Evaluasi dan Penentuan Prospek Hidrokarbon Daerah X, Jawa Barat Utara, FMIPA UI, Indonesia.
- Powers, D. M. (2011). Evaluation: From precision, recall and F-measure to ROC, informedness, markedness and correlation. *Journal of Machine learning Technologies*, 2(1), 37-63.
- Rahman, M. A., dan Wang, Y. (2016). Optimizing intersection-over-union in deep neural networks for image segmentation. *International Symposium on Visual Computing*, 234-244.
- Ronneberger, O., Fischer, P., dan Brox, T. (2015). UNet: Convolutional networks for biomedical image segmentation. International Conference on Medical Image Computing and Computer-Assisted Intervention, 234-241.Ruder, S. (2016). An overview of gradient descent optimization algorithms. arXiv preprint arXiv:1609.04747.
- Rudyawan, A. dan Hall, R. (2012). Structural reassessment of the Banggai Sula area: No Sorong Fault Zone. *Proceeding Indonesian Petroleum Association*, 36th Annual Convention, IPA12-G-030
- Saito, T., dan Rehmsmeier, M. (2015). The Precision-Recall Plot Is More Informative than the ROC Plot When Evaluating Binary Classifiers on Imbalanced Datasets. *PLOS ONE*, 10(3), e0118432. <https://doi.org/10.1371/journal.pone.0118432>
- Salehi, S. S. M., Erdogmus, D., dan Gholipour, A. (2017). Tversky loss function for image segmentation using 3D fully convolutional deep networks. *International Workshop on Machine learning in Medical Imaging (MLMI)*.
- Sheriff, R. E., dan Geldart, L. P. (1995). *Exploration Seismology* (2nd ed.). Cambridge University Press.
- Shorten, C., Khoshgoftaar, T.M., 2019. A survey on Image Data Augmentation for Deep Learning. *Journal of Big Data* 6. <https://doi.org/10.1186/s40537-019-0197-0>
- Simm, R. dan Bacon, M., 2014, Seismic Amplitude: An Interpreter's Handbook, Cambridge University Press, Cambridge.
- Sismanto, 2006, Akuisisi Data Seismik, Yogyakarta: Laboratorium Geofisika Program Studi Geofisika Jurusan Fisika Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Gadjah Mada.
- Smith, L. N. (2017). Cyclical learning rates for training neural networks. *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 464-472.
- Sokolova, M., dan Lapalme, G. (2009). A systematic analysis of performance measures for classification tasks. *Information Processing and Management*, 45(4), 427-437.
- Sudre, C. H., Li, W., Vercauteren, T., Ourselin, S., dan Cardoso, M. J. (2017). Generalised dice *overlap* as a deep learning *loss* function for highly unbalanced segmentations. *Deep Learning in Medical Image Analysis and Multimodal Learning for Clinical Decision Support (DLMIA)*, 240-248.
- Sudre, C. H., Li, W., Vercauteren, T., Ourselin, S., dan Cardoso, M. J. (2017). Generalised dice *overlap* as a deep learning *loss* function for highly



unbalanced segmentations. *Deep Learning in Medical Image Analysis and Multimodal Learning for Clinical Decision Support*, 240-248.

- Tang, Z., Wu, B., Wu, W., Ma, D. (2023). Fault Detection via 2.5D Transformer UNet with Seismic Data. *Remote Sensing*, 15, 1-15. doi: <https://doi.org/10.3390/rs15041039>
- Tura, A., dan Etgen, J. (2002). *Seismic data processing*. SEG.
- Wang, H., Ceylan, D., Mech, R., dan Kautz, J. (2019). Attentive normalization. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2362-2370.
- Wang, S., Si, X., Cai, Z., Cui, Y. (2022). Structural Augmentation in Seismic Data for Fault Prediction. *Applied Sciences*, 12, 1-15. doi: <https://doi.org/10.3390/app12199796>
- Wang, Z., You, J., Liu, W., Wang, X. (2023). Transformer assisted dual UNet. *Frontiers in Earth Science*, 1-11. doi: 10.3389/feart.2023.1047626
- Wei, X, L., Zhang, C, X., Kim, S, W., Jing, K, L., Wang, Y, J., Xu, S., Xie, Z. (2022). Seismic fault detection using convolutional neural networks with focal loss. *Computer and Geosciences*, 158, 1-5. doi: <https://doi.org/10.1016/j.cageo.2021.104968>
- Yan, Z., Zhang, Z., Liu, S. (2021). Improving Performance of Seismic Fault Detection by Fine-Tuning the Convolutional Neural network Pre-Trained with Synthetic Samples. *Energies*, 14, 1-13. doi: <https://doi.org/10.3390/en14123650>
- Yilmaz, O. (2001). *Seismic Data Analysis*. SEG.
- Yu, T., Wang, X., Chen, T, J., Ding, C, W. (2022). Fault Recognition Method Based on Attention Mechanism and Computational Intelligence and Neuroscience, 1-10. doi: <https://doi.org/10.1155/2022/9856669>
- Zhang, Z., dan Sabuncu, M. R. (2018). Generalized cross entropy loss for training deep neural networks with noisy labels. *Advances in Neural Information Processing Systems*, 31, 8778-8788.
- Zhou, H., dkk. (2009). Prestack depth migration in practice. *Geophysics*, 74(5), WCA29-WCA41.
- Zhou, Y., Cheung, Y. M., dan Xiao, Y. (2018). *Image patch analysis*. Springer International Publishing.
- Zhou, Z., Siddiquee, M. M. R., Tajbakhsh, N., dan Liang, J. (2018). Unet++: A nested UNet architecture for medical image segmentation. *Deep Learning in Medical Image Analysis and Multimodal Learning for Clinical Decision Support (DLMIA)*, 3-11.