

DAFTAR PUSTAKA

- [1] ACLU, “WHAT’S WRONG WITH PUBLIC VIDEO SURVEILLANCE?,” Mar. 2002.
- [2] G. S. Cheng Zhiyi. Zhu Xiatian, “Surveillance Face Recognition Challenge,” pp. 2–3, 2018.
- [3] P. Sidney, “MIT Case Studies in Social and Ethical Responsibilities of Computing The Bias in the Machine: Facial Recognition Technology and Racial Disparities License: Creative Commons Attribution-NonCommercial 4.0 International License (CC-BY-NC 4.0),” pp. 2–4, 2021.
- [4] Tempo, “Deretan Kasus Salah Tangkap Akibat Face Recognition Tidak Akurat,” *Tempo.co*, Apr. 16, 2022.
- [5] Florian Schroff, Dmitry Kalenichenko, and James Philbin, “FaceNet: A Unified Embedding for Face Recognition and Clustering,” *ArXiv*, 2015.
- [6] J. P.-A. M. M. B. X. D. W.-F. S. O. A. C. Y. B. Ian J. Goodfellow, “Generative Adversarial Networks,” 2014.
- [7] Google, “GAN,” <https://developers.google.com/machine-learning/gan>, 2021.
- [8] C. Ledig *et al.*, “Photo-Realistic Single Image Super-Resolution Using a Generative Adversarial Network,” Sep. 2016, [Online]. Available: <http://arxiv.org/abs/1609.04802>
- [9] T. Yang, P. Ren, X. Xie, and L. Zhang, “GAN Prior Embedded Network for Blind Face Restoration in the Wild,” May 2021, [Online]. Available: <http://arxiv.org/abs/2105.06070>
- [10] A. Mike Burton, Stephen Wilson, Michelle Cowan, and Vicki Bruce, “FACE RECOGNITION IN POOR-QUALITY VIDEO: Evidence From Security Surveillance,” 1999.

- [11] Edwin Jose, Greeshma M., and Mithun Haridas T. P., “Face Recognition based Surveillance System Using FaceNet and MTCNN on Jetson TX2,” *ieeexplore.ieee.org*, 2019.
- [12] Aswathy K. Cherian, E. Poovammal, and Yash Rathi, “Improving Image Resolution on Surveillance Images Using SRGAN,” *Springer*, pp. 61–76, 2021.
- [13] T. Wang *et al.*, “A Survey of Deep Face Restoration: Denoise, Super-Resolution, Deblur, Artifact Removal,” Nov. 2022, [Online]. Available: <http://arxiv.org/abs/2211.02831>
- [14] A. K. Jain, *Fundamentals of Digital Image Processing*. 2010.
- [15] S. Minaee, Y. Y. Boykov, F. Porikli, A. J. Plaza, N. Kehtarnavaz, and D. Terzopoulos, “Image Segmentation Using Deep Learning: A Survey,” *IEEE Trans Pattern Anal Mach Intell*, pp. 1–1, 2021, doi: 10.1109/TPAMI.2021.3059968.
- [16] F. Isensee, P. F. Jaeger, S. A. A. Kohl, J. Petersen, and K. H. Maier-Hein, “nnU-Net: a self-configuring method for deep learning-based biomedical image segmentation,” *Nat Methods*, vol. 18, no. 2, pp. 203–211, Feb. 2021, doi: 10.1038/s41592-020-01008-z.
- [17] Z. Gu *et al.*, “CE-Net: Context Encoder Network for 2D Medical Image Segmentation,” *IEEE Trans Med Imaging*, vol. 38, no. 10, pp. 2281–2292, Oct. 2019, doi: 10.1109/TMI.2019.2903562.
- [18] H. Huang *et al.*, “UNet 3+: A Full-Scale Connected UNet for Medical Image Segmentation,” in *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, IEEE, May 2020, pp. 1055–1059. doi: 10.1109/ICASSP40776.2020.9053405.
- [19] I. H. Sarker, “Deep Learning: A Comprehensive Overview on Techniques, Taxonomy, Applications and Research Directions,” *SN Comput Sci*, vol. 2, no. 6, p. 420, Nov. 2021, doi: 10.1007/s42979-021-00815-1.

- [20] L. Jing and Y. Tian, “Self-Supervised Visual Feature Learning With Deep Neural Networks: A Survey,” *IEEE Trans Pattern Anal Mach Intell*, vol. 43, no. 11, pp. 4037–4058, Nov. 2021, doi: 10.1109/TPAMI.2020.2992393.
- [21] S. M. S. B. A. Z. E. W. Ben. G. Weinstein, “Individual Tree-Crown Detection in RGB Imagery Using Semi-Supervised Deep Learning Neural Networks,” 2019.
- [22] Y. Xie, Z. Xu, J. Zhang, Z. Wang, and S. Ji, “Self-Supervised Learning of Graph Neural Networks: A Unified Review,” *IEEE Trans Pattern Anal Mach Intell*, vol. 45, no. 2, pp. 2412–2429, Feb. 2023, doi: 10.1109/TPAMI.2022.3170559.
- [23] Y. Lecun, Y. Bengio, and G. Hinton, “Deep learning,” *Nature*, vol. 521, no. 7553. Nature Publishing Group, pp. 436–444, May 27, 2015. doi: 10.1038/nature14539.
- [24] Shreyak, “A to Z about Artificial Neural Networks (ANN) (Theory N Hands-on),” *medium.com*, May 13, 2020.
- [25] David E. Rumelhart, Geoffrey E. Hinton, and Ronald J. Williams, “Learning Representations by Back-propagating Errors,” *Institute for Cognitive Science*, Oct. 1986.
- [26] R. Hecht-Nielsen, “Theory of the backpropagation neural network, Neural Networks 1,” *Supplement-1*, pp. 445–448, 1988.
- [27] D. H. Hubel and T. N. Wiesel, “Receptive fields and functional architecture of monkey striate cortex,” *J Physiol*, pp. 215–243, 1968.
- [28] S. M. K. Fukushima, “Neocognitron: A self-organizing neural network model for a mechanism of visual pattern recognition,” *Competition and cooperation in neural nets*, pp. 267–285, 1982.
- [29] B. B. Le Cun, J. S. Denker, D. Henderson, R. E. Howard, W. Hubbard, and L. D. Jackel, “Handwritten digit recognition with a back-propagation network,” *Proceedings of the Advances in Neural Information Processing Systems (NIPS)*, pp. 396–404, 1989.

- [30] R. F. M. D. Zeiler, “Visualizing and understanding convolutional networks,” *Proceedings of the European Conference on Computer Vision (ECCV)*, pp. 818–833, 2014.
- [31] S. Ioffe and C. Szegedy, “Batch Normalization: Accelerating Deep Network Training by Reducing Internal Covariate Shift,” Feb. 2015, [Online]. Available: <http://arxiv.org/abs/1502.03167>
- [32] K. Simonyan and A. Zisserman, “Very Deep Convolutional Networks for Large-Scale Image Recognition,” Sep. 2014, [Online]. Available: <http://arxiv.org/abs/1409.1556>
- [33] K. He, X. Zhang, S. Ren, and J. Sun, “Deep Residual Learning for Image Recognition,” Dec. 2015, [Online]. Available: <http://arxiv.org/abs/1512.03385>
- [34] C. Szegedy *et al.*, “Going Deeper with Convolutions,” Sep. 2014.
- [35] O. Ronneberger, P. Fischer, and T. Brox, “U-Net: Convolutional Networks for Biomedical Image Segmentation,” May 2015, [Online]. Available: <http://arxiv.org/abs/1505.04597>
- [36] J. Y. and Y. Z. Y. Han, “SRU-Net: a Super-Resolution Network based on U-Net for LiDAR Raster Data,” *IEEE Access*, vol. 7, pp. 120268–120277, 2019.
- [37] K. G. Sheela and S. N. Deepa, “Review on methods to fix number of hidden neurons in neural networks,” *Math Probl Eng*, vol. 2013, 2013, doi: 10.1155/2013/425740.
- [38] W. M. P. Van Der Aalst, V. Rubin, H. M. W. Verbeek, B. F. Van Dongen, E. Kindler, and C. W. Günther, “Process mining: A two-step approach to balance between underfitting and overfitting,” *Softw Syst Model*, vol. 9, no. 1, pp. 87–111, Jan. 2010, doi: 10.1007/s10270-008-0106-z.
- [39] J. S. H. and M. N. E. S. Marquez, “Deep Cascade Learning,” *IEEE Trans Neural Netw Learn Syst*, vol. 30, pp. 863–874, Nov. 2018.
- [40] M. Liu, L. Chen, X. Du, L. Jin, and M. Shang, “Activated Gradients for Deep Neural Networks,” Jul. 2021.

- [41] V.-S. Doan, T. Huynh-The, C.-H. Hua, Q.-V. Pham, and D.-S. Kim, “Learning Constellation Map with Deep CNN for Accurate Modulation Recognition,” in *GLOBECOM 2020 - 2020 IEEE Global Communications Conference*, IEEE, Dec. 2020, pp. 1–6. doi: 10.1109/GLOBECOM42002.2020.9348129.
- [42] S.-H. Kim, J.-W. Kim, V.-S. Doan, and D.-S. Kim, “Lightweight Deep Learning Model for Automatic Modulation Classification in Cognitive Radio Networks,” *IEEE Access*, vol. 8, pp. 197532–197541, 2020, doi: 10.1109/ACCESS.2020.3033989.
- [43] A. W. Senior *et al.*, “Improved protein structure prediction using potentials from deep learning,” *Nature*, vol. 577, no. 7792, pp. 706–710, Jan. 2020, doi: 10.1038/s41586-019-1923-7.
- [44] G. Van Houdt, C. Mosquera, and G. Nápoles, “A review on the long short-term memory model,” *Artif Intell Rev*, vol. 53, no. 8, pp. 5929–5955, Dec. 2020, doi: 10.1007/s10462-020-09838-1.
- [45] L. Jing and Y. Tian, “Self-Supervised Visual Feature Learning With Deep Neural Networks: A Survey,” *IEEE Trans Pattern Anal Mach Intell*, vol. 43, no. 11, pp. 4037–4058, Nov. 2021, doi: 10.1109/TPAMI.2020.2992393.
- [46] X. Liu *et al.*, “Self-supervised Learning: Generative or Contrastive,” *IEEE Trans Knowl Data Eng*, pp. 1–1, 2021, doi: 10.1109/TKDE.2021.3090866.
- [47] A. Elnaggar *et al.*, “ProfTrans: Towards Cracking the Language of Life’s Code Through Self-Supervised Deep Learning and High Performance Computing,” *bioRxiv*, 2020.
- [48] K. Zhou *et al.*, “S3-Rec: Self-Supervised Learning for Sequential Recommendation with Mutual Information Maximization,” in *Proceedings of the 29th ACM International Conference on Information & Knowledge Management*, New York, NY, USA: ACM, Oct. 2020, pp. 1893–1902. doi: 10.1145/3340531.3411954.

- [49] E. Agustsson, R. Timofte, and NTIRE, “challenge on single image super-resolution: dataset and study,” *IEEE Conference on Computer Vision and Pattern Recognition Workshops*, pp. 1122–1131, 2017.
- [50] B. , S. S. , K. H. , N. S. , L. K. M. Lim, “Enhanced deep residual networks for single image super-resolution,” *CVPRW*, 2017.
- [51] S. , K. T. H. , L. K. M. Nah, “Deep multi-scale convolutional neural network for dynamic scene deblurring,” *CVPR*, 2017.
- [52] T. Karras, S. Laine, and T. Aila, “A Style-Based Generator Architecture for Generative Adversarial Networks,” Dec. 2018.
- [53] T. Karras, S. Laine, M. Aittala, J. Hellsten, J. Lehtinen, and T. Aila, “Analyzing and Improving the Image Quality of StyleGAN,” Dec. 2019.
- [54] E. R. Chan *et al.*, “Efficient Geometry-aware 3D Generative Adversarial Networks,” in *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, IEEE, Jun. 2022, pp. 16102–16112. doi: 10.1109/CVPR52688.2022.01565.
- [55] C. Tan, F. Sun, T. Kong, W. Zhang, C. Yang, and C. Liu, “A Survey on Deep Transfer Learning,” 2018, pp. 270–279. doi: 10.1007/978-3-030-01424-7_27.
- [56] U. Cote-Allard *et al.*, “Deep Learning for Electromyographic Hand Gesture Signal Classification Using Transfer Learning,” *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 27, no. 4, pp. 760–771, Apr. 2019, doi: 10.1109/TNSRE.2019.2896269.
- [57] C. Shorten and T. M. Khoshgoftaar, “A survey on Image Data Augmentation for Deep Learning,” *J Big Data*, vol. 6, no. 1, p. 60, Dec. 2019, doi: 10.1186/s40537-019-0197-0.
- [58] H. Maghdid, A. T. Asaad, K. Z. G. Ghafoor, A. S. Sadiq, S. Mirjalili, and M. K. K. Khan, “Diagnosing COVID-19 pneumonia from x-ray and CT images using deep learning and transfer learning algorithms,” in *Multimodal Image Exploitation and*

Learning 2021, S. S. Agaian, S. A. Jassim, S. P. DelMarco, and V. K. Asari, Eds., SPIE, Apr. 2021, p. 26. doi: 10.1117/12.2588672.

- [59] J. Chen, Z. Wang, K. Cheng, H. Zheng, and A. Pan, “Out-of-store Object Detection Based on Deep Learning,” in *Proceedings of the 2019 11th International Conference on Machine Learning and Computing*, New York, NY, USA: ACM, Feb. 2019, pp. 423–428. doi: 10.1145/3318299.3318328.
- [60] J. Chi, E. Walia, P. Babyn, J. Wang, G. Groot, and M. Eramian, “Thyroid Nodule Classification in Ultrasound Images by Fine-Tuning Deep Convolutional Neural Network,” *J Digit Imaging*, vol. 30, no. 4, pp. 477–486, Aug. 2017, doi: 10.1007/s10278-017-9997-y.
- [61] T. D. Pham, “Classification of COVID-19 chest X-rays with deep learning: new models or fine tuning?,” *Health Inf Sci Syst*, vol. 9, no. 1, p. 2, Dec. 2021, doi: 10.1007/s13755-020-00135-3.
- [62] A. Nagabandi, G. Kahn, R. S. Fearing, and S. Levine, “Neural Network Dynamics for Model-Based Deep Reinforcement Learning with Model-Free Fine-Tuning,” in *2018 IEEE International Conference on Robotics and Automation (ICRA)*, IEEE, May 2018, pp. 7559–7566. doi: 10.1109/ICRA.2018.8463189.
- [63] S. Chen, Y. Hou, Y. Cui, W. Che, T. Liu, and X. Yu, “Recall and Learn: Fine-tuning Deep Pretrained Language Models with Less Forgetting,” in *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Stroudsburg, PA, USA: Association for Computational Linguistics, 2020, pp. 7870–7881. doi: 10.18653/v1/2020.emnlp-main.634.
- [64] R. Ranjan, V. M. Patel, and R. Chellappa, “HyperFace: A Deep Multi-Task Learning Framework for Face Detection, Landmark Localization, Pose Estimation, and Gender Recognition,” *IEEE Trans Pattern Anal Mach Intell*, vol. 41, no. 1, pp. 121–135, Jan. 2019, doi: 10.1109/TPAMI.2017.2781233.
- [65] D. Chaves, E. Fidalgo, E. Alegre, R. Alaiz-Rodríguez, F. Jáñez-Martino, and G. Azzopardi, “Assessment and Estimation of Face Detection Performance Based on

- Deep Learning for Forensic Applications,” *Sensors*, vol. 20, no. 16, p. 4491, Aug. 2020, doi: 10.3390/s20164491.
- [66] T. A. Kumar, R. Rajmohan, M. Pavithra, S. A. Ajagbe, R. Hodhod, and T. Gaber, “Automatic Face Mask Detection System in Public Transportation in Smart Cities Using IoT and Deep Learning,” *Electronics (Basel)*, vol. 11, no. 6, p. 904, Mar. 2022, doi: 10.3390/electronics11060904.
- [67] Y. Taigman, M. Yang, M. Ranzato, and L. Wolf, “DeepFace: Closing the Gap to Human-Level Performance in Face Verification,” in *2014 IEEE Conference on Computer Vision and Pattern Recognition*, IEEE, Jun. 2014, pp. 1701–1708. doi: 10.1109/CVPR.2014.220.
- [68] R. Hadsell, S. Chopra, and Y. LeCun, “Dimensionality Reduction by Learning an Invariant Mapping,” in *2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition - Volume 2 (CVPR’06)*, IEEE, pp. 1735–1742. doi: 10.1109/CVPR.2006.100.
- [69] K. H. Park, E. Batbaatar, Y. Piao, N. Theera-Umpon, and K. H. Ryu, “Deep Learning Feature Extraction Approach for Hematopoietic Cancer Subtype Classification,” *Int J Environ Res Public Health*, vol. 18, no. 4, p. 2197, Feb. 2021, doi: 10.3390/ijerph18042197.
- [70] F. Reda, J. Kontkanen, E. Tabellion, D. Sun, C. Pantofaru, and B. Curless, “FILM: Frame Interpolation for Large Motion,” 2022, pp. 250–266. doi: 10.1007/978-3-031-20071-7_15.
- [71] P. Liu, Y. Hong, and Y. Liu, “A Novel Multi-Scale Adaptive Convolutional Network for Single Image Super-Resolution,” *IEEE Access*, vol. 7, pp. 45191–45200, 2019, doi: 10.1109/ACCESS.2019.2908003.
- [72] J. Deng, J. Guo, J. Yang, N. Xue, I. Kotsia, and S. Zafeiriou, “ArcFace: Additive Angular Margin Loss for Deep Face Recognition,” *IEEE Trans Pattern Anal Mach Intell*, vol. 44, no. 10, pp. 5962–5979, Oct. 2022, doi: 10.1109/TPAMI.2021.3087709.

- [73] S. Vasu, N. Thekke Madam, and A. N. Rajagopalan, “Analyzing Perception-Distortion Tradeoff Using Enhanced Perceptual Super-Resolution Network,” 2019, pp. 114–131. doi: 10.1007/978-3-030-11021-5_8.
- [74] Martin Heusel, Hubert Ramsauer, Thomas Unterthiner, Bernhard Nessler, and Sepp Hochreiter, “Gans trained by a two time-scale update rule converge to a local nash equilibrium,” *NeurIPS*, 2017.
- [75] A. Mittal, R. Soundararajan, and A. C. Bovik, “Making a ‘Completely Blind’ Image Quality Analyzer,” *IEEE Signal Process Lett*, vol. 20, no. 3, pp. 209–212, Mar. 2013, doi: 10.1109/LSP.2012.2227726.
- [76] X. Wang, Y. Li, H. Zhang, and Y. Shan, “Towards Real-World Blind Face Restoration with Generative Facial Prior,” Jan. 2021, [Online]. Available: <http://arxiv.org/abs/2101.04061>
- [77] Tero Karras, Samuli Laine, Miika Aittala, Janne Hellsten, Jaakko Lehtinen, and Timo Aila, “Analyzing and improving the image quality of StyleGAN,” *CVPR*, 2020.
- [78] K. Han, Y. Wang, Q. Tian, J. Guo, C. Xu, and C. Xu, “GhostNet: More Features from Cheap Operations,” Nov. 2019.
- [79] X. Wang, L. Xie, C. Dong, and Y. Shan, “Real-ESRGAN: Training Real-World Blind Super-Resolution with Pure Synthetic Data,” Jul. 2021.

