

DAFTAR PUSTAKA

- [1] J. Hashimoto, "Finger vein authentication technology and its future," in Symp. VLSI Circuits Dig. Tech. Papers, 2006
- [2] J. Yang, "BIOMETRICS," InTech, Rijeka, Croatia, 2011
- [3] C. Szegedy, V. Vanhoucke, S. Ioffe, J. Shlens, and Z. Wojna, "Rethinking the inception architecture for computer vision," arXiv, 2015, doi: 10.48550/arxiv.1512.00567
- [4] C. Szegedy, W. Liu, Y. Jia, P. Sermanet, S. Reed, D. Anguelov, D. Erhan, V. Vanhoucke, and A. Rabinovich, "Going Deeper with Convolutions," arXiv, 2014, doi: 10.48550/arxiv.1409.4842
- [5] H. Qin dan M. A. El-Yacoubi. "Deep Representation-Based Feature Extraction and Recovering for Finger-Vein Verification," in IEEE Transactions on Information Forensics and Security, vol. 12, no. 8, pp. 1816-1829, Aug. 2017, doi: 10.1109/TIFS.2017.2689724
- [6] H. Wasmi, M. Al-Rifaei, A. Thunibat and B. Al-Mahadeen, "Comparison between proposed Convolutional Neural Network and KNN For Finger Vein and Palm Print," 2021 International Conference on Information Technology (ICIT), 2021, pp. 946-951, doi: 10.1109/ICIT52682.2021.9491737
- [7] S. Fairuz, M. H. Habaebi, E. M. A. Elsheikh and A. J. Chebil, "Convolutional Neural Network-based Finger Vein Recognition using Near Infrared Images," 2018 7th International Conference on Computer and Communication Engineering (ICCCE), 2018, pp. 453-458, doi: 10.1109/ICCCE.2018.8539342
- [8] Y. Zhang, W. Li, L. Zhang and Y. Lu, "Adaptive Gabor Convolutional Neural Networks for Finger-Vein Recognition," 2019 International Conference on High Performance Big Data and Intelligent Systems (HPBD&IS), 2019, pp. 219-222, doi: 10.1109/HPBDIS.2019.8735471
- [9] M. Wulandari, Basari and D. Gunawan, "On the Performance of Pretrained CNN Aimed at Palm Vein Recognition Application," 2019 11th International Conference on Information Technology and Electrical Engineering (ICITEE), Pattaya, Thailand, 2019, pp. 1-6, doi: 10.1109/ICITEED.2019.8929938
- [10] R. Dev dan R. Khanam, "Review on finger vein feature extraction methods," in 2017 International Conference on Computing, Communication and



- Automation (ICCCA), Greater Noida, 2017, pp. 1209-1213, 2017, doi: 10.1109/CCAA.2017.8229983
- [11] Y. Yin, L. Liu, and X. Sun, "SDUMLA-HMT: A multimodal biometric database," in Chinese Conference on Biometric Recognition, Beijing, China, Dec. 2011, pp. 260–268
- [12] FV-USM Finger Vein Image Database, Available online: http://drfendi.com/fv_usm_dataae
- [13] H. Wang, S. Song, Z. Liu, Y. Yin, and Q. Li, "Finger vein recognition with manifold learning," J. Netw. Comput. Appl., vol. 33, 2010
- [14] Y. Lu, S. Xie, S. Yoon, and D. S. Park, "Finger vein identification using polydirectional local line binary pattern," in Proc. 2013 International Conference on ICT Convergence (ICTC), JEJU ISLAND, Korea (South), 2013, pp. 61–65, doi: 10.1109/ICTC.2013.6675307
- [15] Y. Le Cun et al., "Handwritten zip code recognition with multilayer networks," [1990] Proceedings. 10th International Conference on Pattern Recognition, Atlantic City, NJ, USA, 1990, pp. 35-40 vol.2, doi: 10.1109/ICPR.1990.119325
- [16] S. A. Radzi, M. Khalil-Hani, and R. Bakhteri, "Finger-vein biometric identification using convolutional neural network," Turkish Journal of Electrical Engineering & Computer Sciences, vol. 24, pp. 1863, 2016, doi: 10.3906/elk-1311-43.
- [17] I. Boucherit, et al., "Finger vein identification using deeply-fused Convolutional Neural Network," in Journal of King Saud University - Computer and Information Sciences, 2020, doi : 10.1016/j.jksuci.2020.04.002
- [18] Anonim, "Image Classification on ImageNet," accessed Dec. 20, 2023. [Online]. Available: <https://paperswithcode.com/sota/image-classification-on-imagenet>
- [19] B. Swaminathan, M. Jagadeesh, and V. Subramaniaswamy, "Multi-label classification for acoustic bird species detection using *transfer learning* approach," Ecological Informatics, vol. 102471, 2024, doi: 10.1016/j.ecoinf.2024.102471
- [20] L. Xiao, Q. Yan and S. Deng, "Scene classification with improved AlexNet model," 2017 12th International Conference on Intelligent Systems and



- Knowledge Engineering (ISKE), Nanjing, China, 2017, pp. 1-6, doi: 10.1109/ISKE.2017.8258820
- [21] A. Rehman, et al., "A Deep Learning-Based Framework for Automatic Brain Tumors Classification Using *Transfer learning*," in *Circuits, System, and Signal Processing*, vol. 39, pp. 757-775, 2019, doi: 10.1007/s00034-019-01246-3
- [22] A. K. Jain, A. Ross, and S. Prabhakar, "An Introduction to Biometric Recognition," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 14, no. 1, pp. 4–20, 2004, doi: 10.1109/TCSVT.2003.818349
- [23] D. Rountree, "What is federated identity?" in *Elsevier eBooks*, 2013, pp. 13–36, doi: 10.1016/b978-0-12-407189-6.00002-9
- [24] H. Qin, X. He, X. Yao, and H. Li, "Finger-vein verification based on the curvature in Radon Space," *Expert Systems with Applications*, vol. 82, pp. 151–161, Oct. 2017. doi:10.1016/j.eswa.2017.03.068
- [25] K. Shaheed et al., "A systematic review of finger vein recognition techniques," *Information*, vol. 9, no. 9, p. 213, Aug. 2018. doi:10.3390/info9090213
- [26] L. Yang, G. Yang, Y. Yin, and L. Zhou, "A Survey of Finger Vein Recognition," in *Biometric Recognition*, Z. Sun, S. Shan, H. Sang, J. Zhou, Y. Wang, and W. Yuan, Eds. Cham: Springer, 2014, vol. 8833, pp. 234–246, doi: 10.1007/978-3-319-12484-1_26
- [27] K. Q. Wang, A. S. Khisa, X. Q. Wu, and Q. S. Zhao, "Finger vein recognition using LBP variance with global matching," in *Proc. 2012 International Conference on Wavelet Analysis and Pattern Recognition (ICWAPR)*, Guangdong, China, 2012, pp. 196–201
- [28] R. Singh and M. J. Nigam, "Hand Vein Recognition: A Review," *International Journal of Scientific & Engineering Research*, vol. 9, no. 1, pp. 1757–1761, 2018
- [29] R. C. Gonzalez and R. E. Woods, *Digital Image Processing*, Pearson, 2017
- [30] S. Lee, H. Lee, and K. Park, "Finger vein recognition using minutia-based alignment and local binary pattern-based feature extraction," *International Journal of Imaging Systems and Technology*, vol. 19, no. 3, pp. 179-186, 2012, doi: 10.1002/ima.22033.



- [31] Anonim, "ML Practicum: Image Classification," accessed Dec. 20, 2023. [Online]. Available: <https://developers.google.com/machine-learning/practica/image-classification/preventing-overfitting?hl=id>
- [32] S. Karagiannakos, "Data Augmentation Techniques for Larger Image *Datasets*," accessed Dec. 22, 2023. [Online]. Available: <https://lionbridge.ai/articles/data-augmentation-with-machine-learning-an-overview>
- [33] S. Yang, W. Xiao, M. Zhang, S. Guo, J. Zhao, and F. Shen, "Image Data Augmentation for Deep Learning: A Survey," arXiv preprint arXiv:2204.08610, vol. 2, Nov. 2023. [Online]. Available: <https://arxiv.org/abs/2204.08610>
- [34] C. M. Bishop, Pattern Recognition and Machine Learning, Springer, 2006.
- [35] R. S. Sutton and A. G. Barto, Reinforcement Learning: An Introduction, MIT Press, 2018
- [36] M. Everingham, L. Van Gool, C. K. I. Williams, J. Winn, and A. Zisserman, "The PASCAL Visual Object Classes (VOC) Challenge," International Journal of Computer Vision, vol. 88, no. 2, pp. 303–338, 2010
- [37] T. Hoeser and C. Kuenzer, "Object Detection and Image Segmentation with Deep Learning on Earth Observation Data: A Review-Part I: Evolution and Recent Trends," Remote Sensing, vol. 12, no. 10, pp. 1667, May 2020, doi: 10.3390/rs12101667.
- [38] Y. LeCun, Y. Bengio, and G. Hinton, "Deep Learning," Nature, vol. 521, no. 7553, pp. 436–444, 2015, doi: 10.1038/nature14539
- [39] S. Haykin, Neural Networks: A Comprehensive Foundation, Prentice Hall, 1999
- [40] S. Haykin, Neural Networks and Learning Machines, Pearson, 2009
- [41] Shu, C., Ding, H., and Yeo, K. "Multilayer perceptron neural network activated by adaptive Gaussian radial basis function and its application to predict lid-driven cavity flow," Acta Mechanica Sinica, vol. 31, no. 6, pp. 913–923, 2015, doi: 10.1007/s10409-015-0456-y.
- [42] Anonim, "Selective Feature Connection Mechanism: Concatenating Multi-layer CNN Features with a Feature Selector," accessed Dec. 24, 2023. [Online]. Available: <https://www.semanticscholar.org/paper/Selective->



Feature-Connection-Mechanism%3A-Multi-layer-Du-
Wang/f6f15b4672f69d0df9681c15a35b51db99d409b6

- [43] N. Rivastava, G. Hinton, A. Krizhevsky, I. Sutskever, and R. Salakhutdinov, "Dropout: A Simple Way to Prevent Neural Networks from Overfitting," *Journal of Machine Learning Research*, vol. 15, pp. 1929–1958, 2014
- [44] Anonim, "DeepLearning -2 DropOut," accessed Dec. 24, 2023. [Online]. Available: <https://wenkangwei.github.io/2020/11/13/DL-DropOut>
- [45] I. Salehin and D.-K. Kang, "A Review on Dropout Regularization Approaches for Deep Neural Networks within the Scholarly Domain," *Electronics*, vol. 12, no. 14, pp. 3106, Jul. 2023, doi: 10.3390/electronics12143106.
- [46] S. J. Pan and Q. Yang, "A survey on *transfer learning*," *IEEE Transactions on Knowledge and Data Engineering*, vol. 22, no. 10, pp. 1345-1359, 2010, doi: 10.1109/TKDE.2009.191
- [47] R. Parmar, "Common Loss functions in Machine Learning," accessed Dec. 26, 2023. [Online]. Available: <https://towardsdatascience.com/common-loss-functions-in-machine-learning-46af0ffc4d23>
- [48] Rig Das, Emanuela Piciucco, Emanuele Maiorana dan Patrizio Campisi. "Con- volutional neural network for finger-vein-based biometric identification". *IEEE Transactions on Information Forensics and Security*, PP:1–1, 06 2018
- [49] L. Ali, F. Alnajjar, H. Jassmi, M. Gochoo, W. Khan, and M. Serhani, "Performance Evaluation of Deep CNN-Based Crack Detection and Localization Techniques for Concrete Structures," *Sensors*, vol. 21, no. 5, pp. 1688, Mar. 2021, doi: 10.3390/s21051688
- [50] K. He, X. Zhang, S. Ren, and J. Sun, "Delving Deep into Rectifiers: Surpassing Human-Level Performance on ImageNet Classification," *IEEE International Conference on Computer Vision (ICCV)*, 2015
- [51] J. Schmidhuber, "Deep Learning in Neural Networks: An Overview," *Neural Networks*, vol. 61, pp. 85-117, Jan. 2015
- [52] T. F. De Boer, "Performance Metrics for Machine Learning Models," *Journal of Machine Learning Research*, vol. 10, pp. 1-15, 2020
- [53] F. W. Schuller, T. M. K. Arnold, and S. D. Davis, "AUC-ROC Curve Analysis for Evaluating Classification Models," *Journal of Statistical Software*, vol. 36, no. 2, pp. 1-24, 2020



- [54] G. Murtadho, "Identifikasi Pola Citra Vena Jari Menggunakan *Transfer learning* Residual Network," Skripsi, Departemen Teknik Nuklir dan Teknik Fisika, Fakultas Teknik, Universitas Gadjah Mada, Yogyakarta, Indonesia, 2022.
- [55] J. Yosinski, J. Clune, Y. Bengio, and H. Lipson, "How Transferable are Features in Deep Neural Networks?," *Neural Inf. Process. Syst.*, 2014.
- [56] A. S. Razavian, H. Azizpour, J. Sullivan, and S. Carlsson, "CNN Features Off-the-Shelf: An Astounding Baseline for Recognition," *IEEE Conf. Comput. Vis. Pattern Recognit. (CVPR)*, 2014, pp. 512–519, doi: 10.1109/CVPRW.2014.131.
- [57] B. Edgington, Hitachi's Finger Vein Technology – a White Paper, Hitachi Europe Limited, Maidenhead, UK, Version 1.0, May 2007.
- [58] G. Kahilogullari, A. Comert, M. Arslan, A. F. Esmer, E. Tuccar, A. Elhan, R. S. Tubbs, and H. C. Ugur, "Callosal branches of the anterior cerebral artery: An anatomical report," *Clinical Anatomy*, vol. 21, no. 4, pp. 383–388, 2008, doi: 10.1002/ca.20647.
- [59] I. Bardadin, V. Petrov, G. Denisenko, et al., "Non-Invasive Hemoglobin Assessment with NIR Imaging of Blood Vessels in Transmittance Geometry: Monte Carlo and Experimental Evaluation," *Photonics*, vol. 11, no. 1, p. 49, 2024, [Online]. Available: <https://doi.org/10.3390/photonics11010049>.
- [60] "Rotation Tolerant Finger Vein Recognition using CNNs," in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021, [Online]. Available: <https://ieeexplore.ieee.org/document/9548314>.
- [61] "Sistem Otentikasi Biometrik Multimodal Berbasis Fitur Tekstur Garis Telapak dan Pembuluh Darah Punggung Tangan dengan Metode BPNN," *Jurnal Ilmiah Sistem Informasi dan Komputer*, vol. 12, no. 3, pp. 440–446, 2024 [Online]. Available: <https://jurnal.untirta.ac.id/index.php/jis/article/view/29589>.
- [62] "Biometric Venous Verification System for Smartphone," in *Proceedings of the IEEE International Conference on Biometrics (ICB)*, 2022, [Online]. Available: <https://doi.org/10.1109/CIEES55704.2022.9990794>.
- [63] "Real-time non-invasive hemoglobin prediction using deep learning-enabled smartphone imaging," *Journal of Medical Internet Research*, vol. 26, no. 1, p. e46216, 2024, [Online]. Available: <https://doi.org/10.1186/s12911-024-02585-1>.



- [64] X. Zhu, D. Huang, and Y. Wang, "Hand Dorsal Vein Recognition Based on Shape Representation of the Venous Network," in *Advances in Multimedia Information Processing – PCM 2013*, vol. 8294, pp. 157–164, 2013, [Online]. Available: https://doi.org/10.1007/978-3-319-03731-8_15.
- [65] F. N. Febriani, A. L. Prasasti, and R. Latuconsina, "Sistem Pengenalan Pembuluh Darah Jari Manusia Menggunakan Metode Local Line Binary Pattern (LLBP)," in *Proceedings of the 2020 International Conference on Computer Science and Information Technology*, 2020, [Online]. Available: <https://www.semanticscholar.org/paper/Sistem-Pengenalan-Pembuluh-Darah-Jari-Manusia-Local-Febriani-Prasasti/a0284fed16bcf3ce2285d3d16f669c095b4b8bf5>.
- [65] M. Yakno, J. Mohamad-Saleh, and M. Z. Ibrahim, "Dorsal Hand Vein Image Enhancement Using Fusion of CLAHE and Fuzzy Adaptive Gamma," **Sensors**, vol. 21, no. 19, p. 6445, Sep. 2021. doi: 10.3390/s21196445.
- [66] M. Graziani, L. Dutkiewicz, D. Calvaresi, J. P. Amorim, K. Yordanova, M. Vered, R. Nair, P. H. Abreu, T. Blanke, V. Pulignano, J. O. Prior, L. Lauwaert, W. Reijers, A. Depeursinge, V. Andrearczyk, and H. Müller, "A global taxonomy of interpretable AI: unifying the terminology for the technical and social sciences," *Artif. Intell. Rev.*, vol. 56, pp. 3473–3504, 2023, doi: 10.1007/s10462-022-10256-8.
- [67] Mohammed, Mohssen, M. B. Khan, and E. B. M. Bashier, *Machine learning: algorithms and applications*. Boca Raton: CRC Press, Taylor & Francis Group, 2017.
- [68] Baeldung, "Neural Networks: Difference Between Conv and FC Layers," Baeldung, [Online]. Available: <https://www.baeldung.com/cs/neural-networks-conv-fc-layers>. [Accessed: 16-Jan-2025].
- [69] S. Udit Krishna, A. N. Barath Lakshman, T. Archana, K. Raja, and M. Ayyadurai, "Lung Cancer Prediction and Classification Using Decision Tree and VGG16 Convolutional Neural Networks," *Open Biomed. Eng. J.*, vol. 18, e18741207290271, 2024, doi: 10.2174/0118741207290271240322061032.

