

DAFTAR PUSTAKA

- [1] T. Saba, "Recent advancement in cancer detection using machine learning: Systematic survey of decades, comparisons and challenges," *Journal of Infection and Public Health*, vol. 13, pp. 1274–1289, 9 2020. [Online]. Available: <https://doi.org/10.1016/j.jiph.2020.06.033>
- [2] N. Howlader, G. Forjaz, M. J. Mooradian, R. Meza, C. Y. Kong, K. A. Cronin, A. B. Mariotto, D. R. Lowy, and E. J. Feuer, "The effect of advances in lung-cancer treatment on population mortality," *New England Journal of Medicine*, vol. 383, pp. 640–649, 8 2020. [Online]. Available: <https://doi.org/10.1056/NEJMoa1916623>
- [3] R. Landy, L. C. Cheung, C. D. Young, A. K. Chaturvedi, and H. A. Katki, "Absolute lung cancer risk increases among individuals with ≥ 15 quit-years: Analyses to inform the update of the american cancer society lung cancer screening guidelines," *Cancer*, vol. 130, pp. 201–215, 1 2024. [Online]. Available: <https://onlinelibrary.wiley.com/doi/full/10.1002/cncr.34758>
- [4] X. Zhuang, H. Zhang, and G. Hu, "Cancer and microenvironment plasticity: Double-edged swords in metastasis," *Trends in Pharmacological Sciences*, vol. 40, pp. 419–429, 6 2019. [Online]. Available: [https://www.cell.com/trends/pharmacological-sciences/abstract/S0165-6147\(19\)30080-X](https://www.cell.com/trends/pharmacological-sciences/abstract/S0165-6147(19)30080-X)
- [5] R. Nooreldeen and H. Bach, "Current and future development in lung cancer diagnosis," *International Journal of Molecular Sciences 2021*, Vol. 22, Page 8661, vol. 22, p. 8661, 8 2021. [Online]. Available: <https://www.mdpi.com/1422-0067/22/16/8661>
- [6] K. Sathishkumar, M. Chaturvedi, P. Das, S. Stephen, and P. Mathur, "Cancer incidence estimates for 2022 projection for 2025: Result from national cancer registry programme, india," *The Indian Journal of Medical Research*, vol. 156, p. 598, 10 2022. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10231735/>
- [7] N. Maleki and S. T. A. Niaki, "An intelligent algorithm for lung cancer diagnosis using extracted features from computerized tomography images," *Healthcare Analytics*, vol. 3, p. 100150, 11 2023. [Online]. Available: <https://doi.org/10.1016/j.health.2023.100150>
- [8] A. A. Thai, B. J. Solomon, L. V. Sequist, J. F. Gainor, and R. S. Heist, "Lung cancer," *The Lancet*, vol. 398, pp. 535–554, 8 2021. [Online]. Available: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)00312-3/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00312-3/abstract)
- [9] D. Amicizia, M. F. Piazza, F. Marchini, M. Astengo, F. Grammatico, A. Battaglini, I. Schenone, C. Sticchi, R. Lavieri, B. D. Silverio,

- G. B. Andreoli, and F. Ansaldi, "Systematic review of lung cancer screening: Advancements and strategies for implementation," *Healthcare (Switzerland)*, vol. 11, p. 2085, 7 2023. [Online]. Available: <https://www.mdpi.com/2227-9032/11/14/2085>
- [10] H. Sung, J. Ferlay, R. L. Siegel, M. Laversanne, I. Soerjomataram, A. Jemal, and F. Bray, "Global cancer statistics 2020: Globocan estimates of incidence and mortality worldwide for 36 cancers in 185 countries," *CA: A Cancer Journal for Clinicians*, vol. 71, pp. 209–249, 5 2021. [Online]. Available: <https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21660>
- [11] C. Thallam, A. Peruboyina, S. S. T. Raju, and N. Sampath, "Early stage lung cancer prediction using various machine learning techniques," *Proceedings of the 4th International Conference on Electronics, Communication and Aerospace Technology, ICECA 2020*, pp. 1285–1292, 11 2020. [Online]. Available: <https://ieeexplore.ieee.org/abstract/document/9297576>
- [12] R. L. Siegel, K. D. Miller, and A. Jemal, "Cancer statistics, 2020," *CA: A Cancer Journal for Clinicians*, vol. 70, pp. 7–30, 1 2020. [Online]. Available: <https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21590>
- [13] M. M. Jassim and M. M. Jaber, "Systematic review for lung cancer detection and lung nodule classification: Taxonomy, challenges, and recommendation future works," *Journal of Intelligent Systems*, vol. 31, pp. 944–964, 1 2022. [Online]. Available: <https://www.degruyter.com/document/doi/10.1515/jisys-2022-0062/html?lang=en>
- [14] A. D. Gunasinghe, A. C. Aponso, and H. Thirimanna, "Early prediction of lung diseases," *2019 IEEE 5th International Conference for Convergence in Technology, I2CT 2019*, 3 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/9033668>
- [15] M. W. Marcus, S. W. Duffy, A. Devaraj, B. A. Green, M. Oudkerk, D. Baldwin, and J. Field, "Probability of cancer in lung nodules using sequential volumetric screening up to 12 months: the ukls trial," *Thorax*, vol. 74, pp. 761–767, 8 2019. [Online]. Available: <https://thorax.bmj.com/content/74/8/761>
- [16] K. Wadowska, I. Bil-Lula, Łukasz Trembecki, and M. Śliwińska Mossoń, "Genetic markers in lung cancer diagnosis: A review," *International Journal of Molecular Sciences 2020, Vol. 21, Page 4569*, vol. 21, p. 4569, 6 2020. [Online]. Available: <https://www.mdpi.com/1422-0067/21/13/4569>
- [17] L. Corrales, R. Rosell, A. F. Cardona, C. Martín, Z. L. Zatarain-Barrón, and O. Arrieta, "Lung cancer in never smokers: The role of different risk factors other than tobacco smoking," *Critical Reviews in Oncology/Hematology*, vol. 148, p. 102895, 4 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/abs/pii/S1040842820300330?via%3Dihub>

- [18] R. Patra, "Prediction of lung cancer using machine learning classifier," 2020. [Online]. Available: https://doi.org/10.1007/978-981-15-6648-6_11
- [19] K.-M. Wang, K.-H. Chen, C. A. Hernanda, S.-H. Tseng, K.-J. Wang, K.-M. Wang, K.-H. Chen, C. A. Hernanda, S.-H. Tseng, and K.-J. Wang, "How is the lung cancer incidence rate associated with environmental risks? machine-learning-based modeling and benchmarking," *International Journal of Environmental Research and Public Health* 2022, Vol. 19, Page 8445, vol. 19, p. 8445, 7 2022. [Online]. Available: <https://www.mdpi.com/1660-4601/19/14/8445>
- [20] P. Gupta, S. F. Chiang, P. K. Sahoo, S. K. Mohapatra, J. F. You, D. D. Onthoni, H. Y. Hung, J. M. Chiang, Y. Huang, and W. S. Tsai, "Prediction of colon cancer stages and survival period with machine learning approach," *Cancers* 2019, Vol. 11, Page 2007, vol. 11, p. 2007, 12 2019. [Online]. Available: <https://www.mdpi.com/2072-6694/11/12/2007>
- [21] S. K. Thakur, D. P. Singh, and J. Choudhary, "Lung cancer identification: a review on detection and classification," *Cancer and Metastasis Reviews*, vol. 39, pp. 989–998, 9 2020. [Online]. Available: <https://link.springer.com/article/10.1007/s10555-020-09901-x>
- [22] C. H. Hsu, X. Chen, W. Lin, C. Jiang, Y. Zhang, Z. Hao, and Y. C. Chung, "Effective multiple cancer disease diagnosis frameworks for improved healthcare using machine learning," *Measurement*, vol. 175, p. 109145, 4 2021. [Online]. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0263224121001706?via%3Dihub>
- [23] M. van Smeden, J. B. Reitsma, R. D. Riley, G. S. Collins, and K. G. Moons, "Clinical prediction models: diagnosis versus prognosis," *Journal of Clinical Epidemiology*, vol. 132, pp. 142–145, 4 2021. [Online]. Available: <http://www.jclinepi.com/article/S0895435621000135/fulltext>
- [24] R. Gasparri, M. Santonico, C. Valentini, al, E. Cardis, D. Richardson, P. Chaturvedi, A. Jhamb, M. Vanani, and V. Nemade, "Prediction and classification of lung cancer using machine learning techniques," *IOP Conference Series: Materials Science and Engineering*, vol. 1099, p. 012059, 3 2021. [Online]. Available: <https://iopscience.iop.org/article/10.1088/1757-899X/1099/1/012059>
- [25] Y. Lei, J. Harms, T. Wang, al, E. O. Nadler, Y.-Y. Mao, R. H. Wechsler, X. Hengbo, L. Fengjun, D. Xuan, and T. Zhu, "Analysis on the applicability of the random forest," *Journal of Physics: Conference Series*, vol. 1607, p. 012123, 8 2020. [Online]. Available: <https://iopscience.iop.org/article/10.1088/1742-6596/1607/1/012123>

- [26] K. Hassine, A. Erbad, and R. Hamila, "Important complexity reduction of random forest in multi-classification problem," *2019 15th International Wireless Communications and Mobile Computing Conference, IWCMC 2019*, pp. 226–231, 6 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8766544>
- [27] J. Hatwell, M. M. Gaber, and R. M. A. Azad, "Chirps: Explaining random forest classification," *Artificial Intelligence Review*, vol. 53, pp. 5747–5788, 12 2020. [Online]. Available: <https://link.springer.com/article/10.1007/s10462-020-09833-6>
- [28] N. M. Abdulkareem and A. M. Abdulazeez, "Machine learning classification based on random forest algorithm: A review," 2021. [Online]. Available: <https://zenodo.org/records/4471118>
- [29] J. L. Speiser, M. E. Miller, J. Tooze, and E. Ip, "A comparison of random forest variable selection methods for classification prediction modeling," *Expert Systems with Applications*, vol. 134, pp. 93–101, 11 2019. [Online]. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0957417419303574?via%3Dihub>
- [30] M. I. Prasetyowati, N. U. Maulidevi, and K. Surendro, "The speed and accuracy evaluation of random forest performance by selecting features in the transformation data," *ACM International Conference Proceeding Series*, pp. 125–130, 3 2020. [Online]. Available: <https://dl.acm.org/doi/10.1145/3386762.3386768>
- [31] V. Jain, J. Sharma, K. Singhal, and A. Phophalia, "Exponentially weighted random forest," *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, vol. 11941 LNCS, pp. 170–178, 2019. [Online]. Available: https://link.springer.com/chapter/10.1007/978-3-030-34869-4_19
- [32] E. Scornet, "Trees, forests, and impurity-based variable importance in regression," 2020. [Online]. Available: <https://arxiv.org/pdf/2001.04295.pdf>
- [33] C. Iwendi, A. K. Bashir, A. Peshkar, R. Sujatha, J. M. Chatterjee, S. Pasupuleti, R. Mishra, S. Pillai, and O. Jo, "Covid-19 patient health prediction using boosted random forest algorithm," *Frontiers in Public Health*, vol. 8, p. 357, 7 2020. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7350612/>
- [34] J. F. Saenz-Cogollo and M. Agelli, "Investigating feature selection and random forests for inter-patient heartbeat classification," *Algorithms 2020, Vol. 13, Page 75*, vol. 13, p. 75, 3 2020. [Online]. Available: <https://www.mdpi.com/1999-4893/13/4/75>

- [35] E. Dritsas and M. Trigka, "Lung cancer risk prediction with machine learning models," *Big Data and Cognitive Computing 2022, Vol. 6, Page 139*, vol. 6, p. 139, 11 2022. [Online]. Available: <https://www.mdpi.com/2504-2289/6/4/139>
- [36] R. Yanuar, S. Sa'adah, and P. E. Yunanto, "Implementation of hyperparameters to the ensemble learning method for lung cancer classification," *Building of Informatics, Technology and Science (BITS)*, vol. 5, pp. 498508–498508, 9 2023. [Online]. Available: <https://ejurnal.seminar-id.com/index.php/bits/article/view/4096>
- [37] I. N. Mahmood and H. S. Abdullah, "Lung cancer prediction and risk factors identification using artificial neural network," *Iraqi Journal of Computers*, vol. 22, 2022. [Online]. Available: <https://doi.org/10.33103/uot.ijccee.22.1.6>
- [38] Y. Xie, W. Y. Meng, R. Z. Li, Y. W. Wang, X. Qian, C. Chan, Z. F. Yu, X. X. Fan, H. D. Pan, C. Xie, Q. B. Wu, P. Y. Yan, L. Liu, Y. J. Tang, X. J. Yao, M. F. Wang, and E. L. H. Leung, "Early lung cancer diagnostic biomarker discovery by machine learning methods," *Translational Oncology*, vol. 14, 1 2021. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S1936523320303995>
- [39] K. K. Kondo, . Basmah, R. Mph, C. K. A. Mph, . Rose, R. Mlis, J. C. Griffin, . Michael, and T. Halpern, "Lung cancer diagnosis and mortality beyond 15 years since quit in individuals with a 20+ pack-year history: A systematic review," *CA: A Cancer Journal for Clinicians*, vol. 74, pp. 84–114, 1 2024. [Online]. Available: <https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21808>
- [40] R. O. Ogundokun, S. Misra, N. Dazam, and A. Agrawal, "Classification of lung cancer datasets using computational intelligence techniques," *Lecture Notes in Electrical Engineering*, vol. 834, pp. 459–465, 2022. [Online]. Available: https://www.researchgate.net/publication/358991379_Classification_of_Lung_Cancer_Datasets_Using_Computational_Intelligence_Techniques
- [41] T. Meraj, H. T. Rauf, S. Zahoor, A. Hassan, M. I. U. Lali, L. Ali, S. A. C. Bukhari, and U. Shoaib, "Lung nodules detection using semantic segmentation and classification with optimal features," *Neural Computing and Applications*, vol. 33, pp. 10737–10750, 9 2021. [Online]. Available: <https://link.springer.com/article/10.1007/s00521-020-04870-2>
- [42] M. Dirik, "Machine learning-based lung cancer diagnosis," *Turkish Journal of Engineering-2023*, vol. 7, pp. 322–330, 2023. [Online]. Available: <https://dergipark.org.tr/en/download/article-file/2674470>
- [43] D. M. Abdullah, "Lung cancer prediction and classification based on correlation selection method using machine learning techniques," 2021. [Online]. Available: <https://doi.org/10.48161/qaj.v1n2a58>

- [44] Q. Wang, Y. Zhou, W. Ding, Z. Zhang, K. Muhammad, and Z. Cao, "Random forest with self-paced bootstrap learning in lung cancer prognosis," *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)*, vol. 16, 4 2020. [Online]. Available: <https://dl.acm.org/doi/10.1145/3345314>
- [45] V. N. Jenipher and S. Radhika, "A study on early prediction of lung cancer using machine learning techniques," *Proceedings of the 3rd International Conference on Intelligent Sustainable Systems, ICISS 2020*, pp. 911–916, 12 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9316064>
- [46] N. T. Rincy and R. Gupta, "Ensemble learning techniques and its efficiency in machine learning: A survey," *2nd International Conference on Data, Engineering and Applications, IDEA 2020*, 2 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9170675>
- [47] H. Hamori and S. Hamori, "Does ensemble learning always lead to better forecasts?" *Applied Economics and Finance*, vol. 7, pp. 51–56, 2 2020. [Online]. Available: <https://doi.org/10.11114/aef.v7i2.4716>
- [48] X. Dong, Z. Yu, W. Cao, Y. Shi, and Q. Ma, "A survey on ensemble learning," *Frontiers of Computer Science*, vol. 14, pp. 241–258, 4 2020. [Online]. Available: <https://doi.org/10.1007/s11704-019-8208-z>
- [49] I. D. Mienye and Y. Sun, "A survey of ensemble learning: Concepts, algorithms, applications, and prospects," *IEEE Access*, vol. 10, pp. 99 129–99 149, 2022. [Online]. Available: <https://ieeexplore.ieee.org/document/9893798>
- [50] Y. Cao, T. A. Geddes, J. Y. H. Yang, and P. Yang, "Ensemble deep learning in bioinformatics," *Nature Machine Intelligence 2020 2:9*, vol. 2, pp. 500–508, 8 2020. [Online]. Available: <https://doi.org/10.1038/s42256-020-0217-y>
- [51] R. A. D. Silva, A. M. D. P. Canuto, C. A. D. S. Barreto, and J. C. Xavier, "Automatic recommendation method for classifier ensemble structure using meta-learning," *IEEE Access*, vol. 9, pp. 106 254–106 268, 2021. [Online]. Available: <https://ieeexplore.ieee.org/document/9493882>
- [52] B. P. Evans, "Population-based ensemble learning with tree structures for classification," 1 2019. [Online]. Available: <https://doi.org/10.26686/wgtn.17136296.v1>
- [53] S. González, S. García, J. D. Ser, L. Rokach, and F. Herrera, "A practical tutorial on bagging and boosting based ensembles for machine learning: Algorithms, software tools, performance study, practical perspectives and opportunities," *Information Fusion*, vol. 64, pp. 205–237, 12 2020. [Online]. Available: <https://doi.org/10.1016/j.inffus.2020.07.007>

- [54] I. D. Mienye, Y. Sun, and Z. Wang, "Prediction performance of improved decision tree-based algorithms: a review," *Procedia Manufacturing*, vol. 35, pp. 698–703, 1 2019. [Online]. Available: <https://doi.org/10.1016/j.promfg.2019.06.011>
- [55] J. Xu, "Systematic analysis and application prospect of decision tree," *Highlights in Science, Engineering and Technology*, vol. 71, pp. 163–170, 11 2023. [Online]. Available: <https://doi.org/10.54097/hset.v71i.12687>
- [56] V. A. S. Hernández, R. Monroy, M. A. Medina-Pérez, O. Loyola-González, and F. Herrera, "A practical tutorial for decision tree induction," *ACM Computing Surveys (CSUR)*, vol. 54, 1 2021. [Online]. Available: <https://dl.acm.org/doi/10.1145/3429739>
- [57] G. Nanfack, P. Temple, and B. Frénay, "Constraint enforcement on decision trees: A survey," *ACM Computing Surveys (CSUR)*, vol. 54, 9 2022. [Online]. Available: <https://dl.acm.org/doi/10.1145/3506734>
- [58] W. Feng, C. Ma, G. Zhao, and R. Zhang, "Fsr: an improved random forest for classification," *Proceedings of 2020 IEEE International Conference on Advances in Electrical Engineering and Computer Applications, AEECA 2020*, pp. 173–178, 8 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9213456>
- [59] X. Zhang and M. Wang, "Weighted random forest algorithm based on bayesian algorithm," *Journal of Physics: Conference Series*, vol. 1924, p. 012006, 5 2021. [Online]. Available: <https://iopscience.iop.org/article/10.1088/1742-6596/1924/1/012006>
- [60] R. M. Mohana, C. K. K. Reddy, P. Anisha, and B. R. Murthy, "Withdrawn: Random forest algorithms for the classification of tree-based ensemble," *Materials Today: Proceedings*, 2 2021.
- [61] L. Cheng, X. Chen, J. D. Vos, X. Lai, and F. Witlox, "Applying a random forest method approach to model travel mode choice behavior," *Travel Behaviour and Society*, vol. 14, pp. 1–10, 1 2019. [Online]. Available: <https://www.sciencedirect.com/science/article/abs/pii/S2214367X18300863?via%3Dihub>
- [62] M. Heydarian, T. E. Doyle, and R. Samavi, "Mlcm: Multi-label confusion matrix," 2022. [Online]. Available: <https://ieeexplore.ieee.org/ielx7/6287639/9668973/09711932.pdf>
- [63] I. Düntsch and G. Gediga, "Confusion matrices and rough set data analysis," *Journal of Physics: Conference Series*, vol. 1229, p. 012055, 5 2019. [Online]. Available: <https://doi.org/10.1088/1742-6596/1229/1/012055>
- [64] —, "Indices for rough set approximation and the application to confusion matrices," *International Journal of Approximate Reasoning*, vol. 118,

- pp. 155–172, 3 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0888613X1930430X?via%3Dihub>
- [65] D. Krstinić, M. Braović, L. Šerić, and D. Božić-Štulić, “Multi-label classifier performance evaluation with confusion matrix,” pp. 1–14, 2020. [Online]. Available: <https://airconline.com/csit/papers/vol10/csit100801.pdf>
- [66] K. Riehl, “Hierarchical confusion matrix for classification performance evaluation,” 2023. [Online]. Available: <https://arxiv.org/pdf/2306.09461.pdf>
- [67] M. F. Amin and M. M. Fahmy, “Confusion matrix in three-class classification problems: A step-by-step tutorial by-step tutorial confusion matrix in three-class classification problems: A step-by-step tutorial,” *Journal of Engineering Research*, vol. 7, p. 2023, 2023. [Online]. Available: <https://digitalcommons.aaru.edu.jo/erjeng/vol7/iss1/26>
- [68] I. Markoulidakis, G. Kopsiaftis, I. Rallis, and I. Georgoulas, “Multi-class confusion matrix reduction method and its application on net promoter score classification problem,” *ACM International Conference Proceeding Series*, pp. 412–419, 6 2021. [Online]. Available: <https://dl.acm.org/doi/10.1145/3453892.3461323>
- [69] A. Balasch, M. Beinhofer, and G. Zauner, “The relative confusion matrix, a tool to assess classifiability in large scale picking applications,” *Proceedings - IEEE International Conference on Robotics and Automation*, pp. 8390–8396, 5 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9197540>
- [70] C. Janiesch, P. Zschech, and K. Heinrich, “Machine learning and deep learning,” *Electronic Markets*, vol. 31, pp. 685–695, 9 2021. [Online]. Available: <https://doi.org/10.1007/s12525-021-00475-2>
- [71] H. Shen, H. Jin, Ángel Alexander Cabrera, A. Perer, J. I. Hong, and H. Zhu, “53 designing alternative representations of confusion matrices to support non-expert public understanding of algorithm performance,” *Proc. ACM Hum.-Comput. Interact.*, vol. 4, p. 153, 2020. [Online]. Available: <https://doi.org/10.1145/3415224>
- [72] M. Hasnain, M. F. Pasha, I. Ghani, M. Imran, M. Y. Alzahrani, and R. Budiarto, “Evaluating trust prediction and confusion matrix measures for web services ranking,” *IEEE Access*, vol. 8, pp. 90 847–90 861, 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9091880>
- [73] M. Milanova, A.-P. Xavier, F. Schwenker, R. Barinov, V. Gai, G. Kuznetsov, and V. Golubenko, “Automatic evaluation of neural network training results,” *Computers 2023, Vol. 12, Page 26*, vol. 12, p. 26, 1 2023. [Online]. Available: <https://doi.org/10.3390/computers12020026>