Bibliography

- [1] Harbeck, N. and Gnant, M. "Breast cancer". In: *Lancet (London, England)* 389.10074 (2017), pp. 1134–1150. ISSN: 0140-6736. DOI: 10 . 1016 / s0140 6736(16)31891-8.
- [2] Cancerfonden. Dödlighet i olika cancersjukdomar. https://www.cancerfonden.se/om-cancer/statistik/dodlighet. Accessed: 2021-11-02. 2020.
- [3] Socialstyrelsen. Statistikdatabas för cancer. https://sdb.socialstyrelsen.se/if_can/val.aspx. Accessed: 2021-11-02. 2021.
- [4] Cancer.Net. *Breast Cancer: Statistics*. https://www.cancer.net/cancertypes/breast-cancer/statistics. Accessed: 2021-11-16. 2021.
- [5] National Breast Cancer Foundation, Inc. Stages 0 1. https://www.nationalbreastcancer.org/breast-cancer-stage-0-and-stage-1. Accessed: 2021-11-16. 2020.
- [6] Freeman, K., Geppert, J., Stinton, C., Todkill, D., Johnson, S., Clarke, A., and Taylor-Phillips, S. "Use of artificial intelligence for image analysis in breast cancer screening programmes: systematic review of test accuracy". In: *BMJ* 374 (2021). DOI: 10.1136/bmj.n1872.
- [7] Socialstyrelsen. Bröstcancer screening med mammografi. https://www.socialstyrelsen.se/regler-och-riktlinjer/nationella-screeningprogram/slutliga-rekommendationer/brostcancer/. Accessed: 2021-10-26.2018.
- [8] breastcancer.org. What Is Breast Cancer? https://www.breastcancer.org/symptoms/understand_bc/what_is_bc. Accessed: 2021-10-28. 2018.

- [9] Lokate, M., Stellato, R. K., Veldhuis, W. B., Peeters, P. H. M., and Gils, C. H. van. "Age-related Changes in Mammographic Density and Breast Cancer Risk". In: *American Journal of Epidemiology* 178.1 (May 2013), pp. 101–109. ISSN: 0002-9262. DOI: 10.1093/aje/kws446.
- [10] Walker, R. A. and Martin, C. V. "The aged breast". In: *The Journal of Pathology* 211.2 (), pp. 232–240. DOI: https://doi.org/10.1002/path.2079.
- [11] Huang, W., Li, X., Li, H., Wang, W., Chen, K., Xu, K., Zhang, J., Chen, Y., Wei, D., Shu, N., and Zhang, Z. "Accelerated Brain Aging in Amnestic Mild Cognitive Impairment: Relationships with Individual Cognitive Decline, Risk Factors for Alzheimer Disease, and Clinical Progression". In: *Radiology: Artificial Intelligence* 3.5 (2021), e200171. DOI: 10.1148/ryai.2021200171.
- [12] Shieh, Y., Eklund, M., Sawaya, G., Black, W., Kramer, B., and Esserman, L. "Population-based screening for cancer: hope and hype". In: *Nature reviews*. *Clinical oncology* 13 (Apr. 2016). DOI: 10.1038/nrclinonc.2016.50.
- [13] United, Nations. *THE 17 GOALS*. https://sdgs.un.org/goals. Accessed: 2021-11-18.
- [14] Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S.D., Tegmark, M., and Nerini, F.F. "The role of artificial intelligence in achieving the Sustainable Development Goals". In: *Nature Communications* 11 (233 2020). DOI: 10.1038/s41467-019-14108-y.
- [15] Hipwell, J., Vavourakis, V., Han, L., Mertzanidou, T., Eiben, B., and Hawkes, D. "A review of biomechanically informed breast image registration". In: *Physics in medicine and biology* 61 (Jan. 2016), R1–R31. DOI: 10.1088/0031-9155/61/2/R1.
- [16] Heine, J. J. and Malhotra, P. "Mammographic Tissue, Breast Cancer Risk, Serial Image Analysis, and Digital Mammography: Part 2. Serial Breast Tissue Chage and Related Temporal Influences". In: *Academic Radiology* 9.3 (2002), pp. 317–335. ISSN: 1076-6332. DOI: https://doi.org/10.1016/S1076-6332(03)80374-4.
- [17] Xue, M., Zhang, K., Mu, K., Xu, J., Yang, H., Liu, Y., Wang, B., Wang, Z., Li, Z., Kong, Q., et al. "Regulation of estrogen signaling and breast cancer proliferation by an ubiquitin ligase TRIM56". In: *Oncogenesis* 8.5 (2019), pp. 1–14.

- [18] American, Cancer Society. Fibroadenomas of the Breast. https://www.cancer.org/cancer/breast-cancer/non-cancerous-breast-conditions/fibroadenomas-of-the-breast.html. Accessed: 2021-11-18. 2019.
- [19] Rehman, S., Haynes, J., Lima-Fernandes, E., Puri, A., Haller, A., Leung, C., Agro, L., Wang, Y., and O'Brien, C.A. "Chapter 7 Colorectal Cancer Stem Cells". In: *Cancer Stem Cells*. Ed. by L. Huiping and J. D. Lathia. Boston: Academic Press, 2016, pp. 177–209. ISBN: 978-0-12-803892-5. DOI: https://doi.org/10.1016/B978-0-12-803892-5.00007-3.
- [20] American, Cancer Society. *Breast Cancer Grades*. https://www.cancer.org/cancer/breast-cancer/understanding-a-breast-cancer-diagnosis/breast-cancer-grades.html. Accessed: 2021-10-28. 2019.
- [21] Scitable, by Nature Education. *phenotype / phenotypes*. https://www.nature.com/scitable/definition/phenotype-phenotypes-35/. Accessed: 2021-10-26. 2014.
- [22] Pisano, E. D. and Yaffe, M. J. "Digital Mammography". In: *Radiology* 234.2 (2005). PMID: 15670993, pp. 353-362. DOI: 10.1148/radiol.2342030897.
- [23] "17 Digital Mammography". In: *Cancer Imaging*. Ed. by M.A. Hayat. San Diego: Academic Press, 2008, pp. 455–458. ISBN: 978-0-12-374212-4. DOI: https://doi.org/10.1016/B978-012374212-4.50050-X.
- [24] Velikova, M., Samulski, M., Lucas, P. JF, and Karssemeijer, N. "Improved mammographic CAD performance using multi-view information: a Bayesian network framework". In: *Physics in Medicine & Biology* 54.5 (2009), p. 1131.
- [25] Vachon, C. M., Brandt, K. R., Ghosh, K., Scott, C. G., Maloney, S. D., Carston, M. J., Pankratz, V. S., and Sellers, T. A. "Mammographic Breast Density as a General Marker of Breast Cancer Risk". In: *Cancer Epidemiology and Prevention Biomarkers* 16.1 (2007), pp. 43–49. ISSN: 1055-9965. DOI: 10.1158/1055-9965. EPI-06-0738.
- [26] Boyd, N., Martin, L., Yaffe, M., and Minkin, S. "Mammographic Density and Breast Cancer Risk: Current Understanding and Future Prospects". In: *Breast Cancer Res.* 13 (Jan. 2011), pp. 1–12.

- [27] Radisky, D. and Hartmann, L. "Mammary Involution and Breast Cancer Risk: Transgenic Models and Clinical Studies". In: *Journal of mammary gland biology and neoplasia* 14 (May 2009), pp. 181–91. DOI: 10.1007/s10911-009-9123-y.
- [28] Jylhävä, J., Pedersen, N. L, and Hägg, S. "Biological age predictors". In: *EBioMedicine* 21 (2017), pp. 29–36.
- [29] Kresovich, J. K., Xu, X., O'Brien, K. M., Weinberg, C. R., Sandler, D. P., and Taylor, J. A. "Methylation-based biological age and breast cancer risk". In: *JNCI: Journal of the National Cancer Institute* 111.10 (2019), pp. 1051–1058.
- [30] Günay Yılmaz, A. and Nabiyev, V. "Investigating the Effects of Facial Regions to Age Estimation". In: *International Journal of Applied Mathematics, Electronics and Computers* (Dec. 2016), pp. 72-72. DOI: 10.18100/ijamec. 265362.
- [31] Cao, W., Mirjalili, V., and Raschka, S. "Rank consistent ordinal regression for neural networks with application to age estimation". In: *Pattern Recognition Letters* 140 (2020), pp. 325–331. ISSN: 0167-8655. DOI: 10.1016/j.patrec. 2020.11.008.
- [32] Ito, K., Kawai, H., Okano, T., and Aoki, T. "Age and Gender Prediction from Face Images Using Convolutional Neural Network". In: 2018 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC). 2018, pp. 7–11. DOI: 10.23919/APSIPA.2018.8659655.
- [33] Rothe, R., Timofte, R., and Van Gool, L. "DEX: Deep EXpectation of Apparent Age from a Single Image". In: 2015 IEEE International Conference on Computer Vision Workshop (ICCVW). 2015, pp. 252–257. DOI: 10.1109/ICCVW.2015.41.
- [34] Fujiyoshi, H., Hirakawa, T., and Yamashita, T. "Deep learning-based image recognition for autonomous driving". In: *IATSS Research* 43 (4 2019), pp. 244–252. DOI: 10.1016/j.iatssr.2019.11.008.
- [35] Kohli, S., Prakash, S., and Gupta, P. "Hierarchical age estimation with dissimilarity-based classification". In: *Neurocomputing* 120 (2013), pp. 164–176.

- [36] Horng, W. B., Lee, C. P., Chen, C. E., et al. "Classification of age groups based on facial features". In: *Journal of Applied Science and Engineering* 4.3 (2001), pp. 183–192.
- [37] Kwon, Y. H. and da Vitoria Lobo, N. "Age classification from facial images". In: *Computer vision and image understanding* 74.1 (1999), pp. 1–21.
- [38] Hecht-Nielsen, R. "Neural Networks for Perception Computation, Learning, and Architectures". In: ed. by H. Wechsler. Elsevier Inc, 1992. Chap. III.3 Theory of the Backpropagation Neural Network.
- [39] McHugh, M. L. "Interrater reliability: the kappa statistic". In: *Biochemia medica* 22.3 (2012), pp. 276–282.
- [40] Reed, R. and MarksII, R. J. Neural smithing: supervised learning in feedforward artificial neural networks. Mit Press, 1999.
- [41] Dembrower, K., Lindholm, P., and Strand, F. "A multi-million mammography image dataset and population-based screening cohort for the training and evaluation of deep neural networks—the cohort of screen-aged women (CSAW)". In: *Journal of digital imaging* 33.2 (2020), pp. 408–413.
- [42] McKinney, W. pandas: powerful Python data analysis toolkit. https://pandas.pydata.org/pandas-docs/version/0.7.3/pandas.pdf. Accessed: 2022-04-12.
- [43] Naveenkumar, M. and Vadivel, A. "OpenCV for computer vision applications". In: *Proceedings of National Conference on Big Data and Cloud Computing* (NCBDC'15). 2015, pp. 52–56.
- [44] Van der Walt, S., Schönberger, J. L., Nunez-Iglesias, J., Boulogne, F., Warner, J. D., Yager, N., Gouillart, E., and Yu, T. "scikit-image: image processing in Python". In: *PeerJ* 2 (2014), e453.
- [45] Abadi, M., Barham, P., Chen, J., Chen, Z., Davis, A., Dean, J., Devin, M., Ghemawat, S., Irving, G., Isard, M., et al. "TensorFlow: A System for Large-Scale Machine Learning". In: 12th USENIX symposium on operating systems design and implementation (OSDI 16). 2016, pp. 265–283.
- [46] Johnson, J. M. and Khoshgoftaar, T. M. "Survey on deep learning with class imbalance". In: *Journal of Big Data* 6.1 (2019), pp. 1–54.

- [47] Koonce, B. "EfficientNet". In: Convolutional Neural Networks With Swift for Tensorflow. Springer, 2021, pp. 109–123.
- [48] Fu, Y. Image classification via fine-tuning with EfficientNet. https://keras.io/examples/vision/image_classification_efficientnet_fine_tuning/. Accessed: 2022-04-11. 2020.
- [49] Yi, X., Yuanhong, X., Qi, Q., Hao, L., and Rong, J. *Towards Understanding Label Smoothing*. 2020. arXiv: 2006.11653 [cs.LG].
- [50] Tae Kyun, K. "Understanding one-way ANOVA using conceptual figures". In: *Korean journal of anesthesiology* 70.1 (2017), p. 22.
- [51] Virtanen, P., Gommers, R., Oliphant, T. E., Haberland, M., Reddy, T., Cournapeau, D., Burovski, E., Peterson, P., Weckesser, W., Bright, J., et al. "SciPy 1.0: fundamental algorithms for scientific computing in Python". In: *Nature methods* 17.3 (2020), pp. 261–272.
- [52] Bergstra, J. and Bengio, Y. "Random search for hyper-parameter optimization." In: *Journal of machine learning research* 13.2 (2012).
- [53] Harris, Charles R, Millman, K Jarrod, Van Der Walt, Stéfan J, Gommers, Ralf, Virtanen, Pauli, Cournapeau, David, Wieser, Eric, Taylor, Julian, Berg, Sebastian, Smith, Nathaniel J, et al. "Array programming with NumPy". In: *Nature* 585.7825 (2020), pp. 357–362.
- [54] Pedregosa, Fabian, Varoquaux, Gaël, Gramfort, Alexandre, Michel, Vincent, Thirion, Bertrand, Grisel, Olivier, Blondel, Mathieu, Prettenhofer, Peter, Weiss, Ron, Dubourg, Vincent, et al. "Scikit-learn: Machine learning in Python". In: *the Journal of machine Learning research* 12 (2011), pp. 2825–2830.