

## DAFTAR PUSTAKA

- [1] Aristoteles, A. Syarif, , & F. R. Lumbanraja, “Systematic Review: Perkembangan Machine Learning pada Sperma Manusia,” *Jurnal Teknoinfo*, 17(1), 112-118, 2023.
- [2] D. Ratnawati, N. Isnaini, & T. Susilawati, “Faktor-faktor yang mempengaruhi analisis motilitas spermatozoa dengan menggunakan CASA,” *Wartazoa*, 29(3), 145-152, 2019.
- [3] H. Akbar, *et al.*, *Teori Kesehatan Reproduksi*. Yayasan Penerbit Muhammad Zaini, 2021.
- [4] H. S. Taylor, M. A. Fritz, Lubna Pal, and Emre Seli, *Speroff's clinical gynecologic endocrinology and infertility*. Philadelphia: Wolters Kluwer, 2020.
- [5] Z. Zahrowati, “Bayi Tabung (Fertilisasi In Vitro) Dengan Menggunakan Sperma Donor dan Rahim Sewaan (Surrogate Mother) dalam Perspektif Hukum Perdata,” *Halu Oleo Law Review*, vol. 1, no. 2, p. 196, Mar. 2018, doi : 10.33561/holrev.v1i2.3642.
- [6] A. P. Ferraretti *et al.*, “Assisted reproductive technology in Europe, 2008: results generated from European registers by ESHRE†,” *Human Reproduction*, vol. 27, no. 9, pp. 2571–2584, Jul. 2012, doi: 10.1093/humrep/des255.
- [7] R. Menkveld, “Semen parameters, including WHO and strict criteria morphology, in a fertile and subfertile population: an effort towards standardization of in-vivo thresholds,” *Human Reproduction*, vol. 16, no. 6, pp. 1165–1171, Jun. 2001, doi : 10.1093/humrep/16.6.1165.
- [8] T. Febriyanto, R. Sunita, and J. Farizal, “HUBUNGAN KEBIASAAN MEROKOK DENGAN GAMBARAN MOTILITAS SPERMA PADA PEROKOK AKTIF DI KOTA BENGKULU,” *Journal of Nursing and Public Health*, vol. 10, no. 1, pp. 157–163, May 2022, doi: 10.3767/jnph.v10i1.2382.
- [9] N. Siritanapongpak & W. Boongsoo, “Development of an algorithm to help detect human sperm in microscope images,” In *International Conference on Image, Signal Processing, and Pattern Recognition (ISPP 2024)* (Vol. 13180, pp. 122-128), SPIE, 2024.
- [10] G. van der Horst, “Computer Aided Sperm Analysis (CASA) in domestic animals: Current status, three D tracking and flagellar analysis,” *Animal Reproduction Science*, p. 106350, Apr. 2020, doi: 10.1016/j.anireprosci.2020.106350.
- [11] I.G.S.M. Diyasa *et al.*, “Modified background subtraction statistic models for improvement detection and counting of active spermatozoa motility,” *Lontar Komput. J. Ilm. Teknol. Inf*, 2018.
- [12] I.G.S.M. Diyasa *et al.*, “Abnormality Determination of Spermatozoa Motility Using Gaussian Mixture Model and Matching-based Algorithm,” *Journal of Robotics and Control (JRC)*, vol.5, pp. 103-116, 2024.

- [13] Y. Wu, C. Wang, J. Tan, H. Wei, H. Sun, and J. Peng, “Logistic Regression Analysis Factors Affecting Sperm Motility and Abnormal Sperm Morphology in Boars,” *Animals*, vol. 9, no. 12, p. 1004, 2019, doi: 10.3390/ani9121004.
- [14] M. F. Syahputra *et al.*, “Identification Male Fertility Through Abnormalities Sperm Based Morphology (Teratospermia) using Invariant Moment Method,” *Journal of Physics*, 2018, doi: 10.1088/1742-6596/978/1/012107.
- [15] S. G. Goodson *et al.*, “CASAnova: a multiclass support vector machine model for the classification of human sperm motility patterns†,” *Biology of Reproduction*, vol. 97, no. 5, pp. 698–708, Oct. 2017, doi: 10.1093/biolre/iox120.
- [16] D. Kurniawan, *Pengenalan machine learning dengan python*. Elex Media Komputindo. 2022.
- [17] D. J. Pine, *Introduction to Python for Science and Engineering*. CRC Press, 2019.
- [18] D. B. Allan, *et al.*, “soft-matter/trackpy: Trackpy v0. 5.0,” *Zenodo Repository*, 2021.
- [19] S. Prigent, *et al.*, “STracking: a free and open-source Python library for particle tracking and analysis,” *Bioinformatics*, vol. 38, no. 14, pp. 3671–3673, May 2022, doi: 10.1093/bioinformatics/btac365.
- [20] Y. Rifa'i, *Analisis Metodologi Penelitian Kulitatif dalam Pengumpulan Data di Penelitian Ilmiah pada Penyusunan Mini Riset*. Cendekia Inovatif Dan Berbudaya, 1(1), 31-37, 2023.
- [21] L. Judijanto *et al*, “Implementasi Teknologi Artificial Intelligence dan Machine Learning dalam Praktik Akuntansi dan Audit: Sebuah Revolusi atau Evolusi,” *COSMOS: Jurnal Ilmu Pendidikan, Ekonomi dan Teknologi*, 1(6), 470-483, 2024.
- [22] I. Goodfellow *et al*, “Generative adversarial networks,” *Communications of the ACM*, 63(11), 139-144, 2020.
- [23] D. Hosmer, S. Lemeshow, and R. X. Sturdivant, *Applied Logistic Regression*. New York, Etc.: John Wiley and Sons, Cop, 2013.
- [24] D. Mortimer, *Semen Analysis and Sperm Washing Techniques*, CRC Press, 2020.
- [25] World Health Organization, *WHO laboratory manual for the examination and processing of human semen.*, 6th ed. Geneva: World Health Organization, Cop, 2021.
- [26] T. Susilawati, “Spermatology,” *Universitas Brawijaya Press*, 2011.
- [27] R. J. Aitken, Motility parameters and fertility. In *Controls of Sperm Motility* (pp. 285-302). CRC Press, 2020.
- [28] J. Auger *et al.*, “Sperm morphological defects related to environment, lifestyle and medical history of 1001 male partners of pregnant women from four European cities,” *Human Reproduction*, vol. 16, no. 12, pp. 2710–2717, Dec. 2001, doi: 10.1093/humrep/16.12.2710.

- [29] M. S. Abrao, L. Muzii, and R. Marana, “Anatomical causes of female infertility and their management,” *International Journal of Gynecology & Obstetrics*, vol. 123, pp. S18–S24, Sep. 2013, doi: 10.1016/j.ijgo.2013.09.008.
- [30] C. Dai *et al*, “Advances in sperm analysis: techniques, discoveries and applications,” *Nature Reviews Urology*, 18(8), 447-467, 2021.
- [31] E. Alpaydin, “Machine Learning,” *MIT Press*, 2021.
- [32] I. H. Sarker, “Machine Learning: Algorithms, Real-World Applications and Research Directions,” *SN Computer Science*, vol. 2, no. 3, pp. 1–21, Mar. 2021, doi: 10.1007/s42979-021-00592-x.
- [33] A. Voulovodimos, N. Doulamis, A. Doulamis, and E. Protopapadakis, “Deep Learning for Computer Vision: a Brief Review,” *Computational Intelligence and Neuroscience*, vol. 2018, pp. 1–13, Feb. 2018, doi: 10.1155/2018/7068349.
- [34] M. Elgendi, *Deep learning for vision systems*. Shelter Island, Ny Manning Publications Co, 2020.
- [35] R. C. Gonzalez and R. E. Woods, *Digital Image Processing*, 4th ed. New York, Ny: Pearson, 2018.
- [36] A. Ratner, S. H. Bach, H. Ehrenberg, J. Fries, S. Wu, and C. Ré, “Snorkel: rapid training data creation with weak supervision,” *The VLDB Journal*, vol. 29, no. 2–3, pp. 709–730, Jul. 2019, doi: 10.1007/s00778-019-00552-1.
- [37] M. Rastegari, V. Ordonez, J. Redmon, and A. Farhadi, “XNOR-Net: ImageNet Classification Using Binary Convolutional Neural Networks,” *Springer Link*, 2016. [https://link.springer.com/chapter/10.1007%2F978-3-319-46493-0\\_32](https://link.springer.com/chapter/10.1007%2F978-3-319-46493-0_32) (accessed Sep. 11, 2021).
- [38] G. Litjens *et al.*, “A Survey on Deep Learning in Medical Image Analysis,” *Medical Image Analysis*, vol. 42, no. 1, pp. 60–88, Dec. 2017, doi: 10.1016/j.media.2017.07.005.
- [39] P. Domínguez-García, M. Pancorbo, F. Ortega, and M. A. Rubio, “JColloids: Image analysis for video-microscopy studies of colloidal suspensions,” *Computer Physics Communications*, vol. 231, pp. 243–244, Oct. 2018, doi: 10.1016/j.cpc.2018.04.033.
- [40] G. Bradski and A. Kaehler, *Learning OpenCV*. O’reilly Media, 2015.
- [41] V. Kanade, “What Is Logistic Regression? Equation, Assumptions, Types, and Best Practices,” *Spiceworks*, 2022. <https://www.spiceworks.com/tech/artificial-intelligence/articles/what-is-logistic-regression/>
- [42] D. Lovell, D. Miller, J. Capra, and A. Bradley, “Never mind the metrics -- what about the uncertainty? Visualising confusion matrix metric distributions,” 2022.

- [43] M. A. Chandra and S. S. Bedi, "Survey on SVM and their application in image classification," *International Journal of Information Technology*, vol. 13, no. 5, 2021, doi : 10.1007/s41870-017-0080-1.