# Bibliography


[1] Center for Disease Control and Preservation (CDC). Dpdx - laboratory identification of parasites of public health concern, 2021. URL https://www.cdc.gov/dpdx/az.html. [Online; accessed: 08.02.2021].

[2] Hadi, R. S. *et al.* Human parasitic worm detection using image processing technique. In *International Symposium on Computer Applications and Industrial Electronics (ISCAIE)*. 196–201, 2012.

[3] Girshick, R. *et al.* Rich feature hierarchies for accurate object detection and semantic segmentation, 2014. 1311.2524.

[4] Rogers, K. Encyclopedia britannica - parasitic disease , 2023. URL https://www.britannica.com/science/parasitic-disease.

[5] Cummings, R. & Turco, S. Parasitic infections. *Essentials of Glycobiology. 2nd edition* , 2009.

[6] Parker, N. *et al.* *Microbiology (OpenStax)*, OpenStax, 2016.

[7] Levinson, W. *et al.* *Ectoparasites That Cause Human Disease*, McGraw Hill, New York, NY, 2020. URL accessmedicine.mhmedical.com/content.aspx?aid=1171926975.

[8] Cordeiro, F. A. *et al.* Arachnids of medical importance in brazil: main active compounds present in scorpion and spider venoms and tick saliva. *Journal of venomous animals and toxins including tropical diseases* **21**, 00–00, 2015.

[9] Yang, Y. S. *et al.* Automatic identification of human helminth eggs on microscopic fecal specimens using digital image processing and an artificial neural network. *IEEE Transactions on Biomedical Engineering* **48** (6), 718–730, 2001.

[10] Ray, K. *et al.* Detection and identification of ascaris lumbricoides and necator americanus eggs in microscopic images of faecal samples of pigs. *International Journal of Automation and Control* **15** (3), 378–402, 2021.

[11] Suzuki, K. Overview of deep learning in medical imaging. *Radiological physics and technology* **10** (3), 257–273, 2017.

[12] Latif, J. *et al.* Medical imaging using machine learning and deep learning algorithms: a review. In *2019 2nd International conference on computing, mathematics and engineering technologies (iCoMET).* 1–5, IEEE, 2019.

[13] Litjens, G. *et al.* A survey on deep learning in medical image analysis. *Medical image analysis* **42**, 60–88, 2017.

[14] Di Ruberto, C. *et al.* Detection of red and white blood cells from microscopic blood images using a region proposal approach. *Computers in biology and medicine* **116**, 103530, 2020.

[15] Francis, J. *et al.* Best practice no 174. *Journal of Clinical Pathology* **56** (12), 888–891, 2003. URL https://jcp.bmj.com/content/56/12/888. https://jcp.bmj.com/content/56/12/888.full.pdf.

[16] Haque, R. Human intestinal parasites. *Journal of health, population, and nutrition* **25** (4), 387, 2007.

[17] Leung, F.-H. & Watson, W. The parasite that wasn't: a case of mistaken identity. *Canadian Family Physician* **57** (10), 1145–1147, 2011.

[18] Dorrestein, G. M. 8 - passerines. In Tully, T. N. *et al.* (eds.) *Handbook of Avian Medicine (Second Edition)*, 169–208, W.B. Saunders, Edinburgh, 2009, second edition edn. URL https://www.sciencedirect.com/science/article/pii/B9780702028748000080.

[19] Raj, S. & Yadav, A. Parasites observed in urine sediments: A learning from incidental rare species. *IP Journal of Diagnostic Pathology and Oncology* **8** (3), 13–21, 2023.

[20] Norgan, A. P. & Pritt, B. S. Parasitic infections of the skin and subcutaneous tissues. *Advances in anatomic pathology* **25** (2), 106–123, 2018.

[21] Yildirim, A. *et al.* Detection and molecular characterization of a haemoproteus lineage in a tawny owl (strix aluco) in turkey. *Veteriner Fakültesi dergisi* **60**, 179–183, 2013.

[22] 14 - infectious diseases. In Samour, J. (ed.) *Avian Medicine (Third Edition)*, 434–521, Mosby, 2016, third edition edn. URL https://www.sciencedirect.com/science/article/pii/B9780723438328000146.

[23] Senthilkumaran, N. & Vaithegi, S. Image segmentation by using thresholding techniques for medical images. *Computer Science and Engineering: An International Journal (CSEIJ)* **6** (1), 1–13, 2016.

[24] Kaur, D. & Kaur, Y. Various image segmentation techniques: A review. *International Journal of Computer Science and Mobile Computing* **3** (5), 809–814, 2014. URL https://ijcsmc.com/docs/papers/May2014/V3I5201499a84.pdf.

[25] Muthukrishnan, R. & Radha, M. Edge detection techniques for image segmentation. *International Journal of Computer Science and Information Technology (IJCSIT)* **3** (6), 259–267, 2011.

[26] Lalitha, K. *et al.* Implementation of watershed segmentation. *International Journal of Advanced Research in Computer and Communication Engineering* **5** (12), 196–199, 2016.

[27] Suzuki, C. T. N. *et al.* Automatic segmentation and classification of human intestinal parasites from microscopy images. *IEEE Transactions on Biomedical Engineering* **60** (3), 803–812, 2013.

[28] Steinbaum, L. *et al.* Detecting and enumerating soil-transmitted helminth eggs in soil: New method development and results from field testing in kenya and bangladesh. *PLoS neglected tropical diseases* **11** (4), e0005522, 2017.

[29] Haralick, R. M. *et al.* Image analysis using mathematical morphology. *IEEE Transactions on Pattern Analysis and Machine Intelligence* **PAMI-9** (4), 532–550, 1987.

[30] Ray, K. *et al.* A study on classification accuracy of different features in identification of parasite eggs from microscopic images of fecal samples. In *Proceedings of the International Conference on Computing and Communication Systems: I3CS 2020, NEHU, Shillong, India*. 305–313, Springer, 2021.

[31] Chaubey, A. K. Comparison of the local and global thresholding methods in image segmentation. *World Journal of Research and Review* **2** (1), 01–04, 2016. URL https://www.wjrr.org/download_data/WJRR0201009.pdf.

[32] Castanon, C. A. *et al.* Biological shape characterization for automatic image recognition and diagnosis of protozoan parasites of the genus eimeria. *Pattern Recognition* **40** (7), 1899–1910, 2007.

[33] Dogantekin, E. *et al.* A robust technique based on invariant moments – anfis for recognition of human parasite eggs in microscopic images. *Expert Systems with Applications* **35** (3), 728–738, 2008.

[34] Avci, D. & Varol, A. An expert diagnosis system for classification of human parasite eggs based on multi-class svm. *Expert Systems with Applications* **36** (1), 43–48, 2009.

[35] Alva, A. *et al.* Mathematical algorithm for the automatic recognition of intestinal parasites. *PLOS ONE* **12** (4), 1–13, 2017.

[36] Bruun, J. M. *et al.* Ovaspec – a vision-based instrument for assessing concentration and developmental stage of trichuris suis parasite egg suspensions. *Computers in Biology and Medicine* **53**, 94–104, 2014.

[37] Sulong, S. M. *et al.* Ascaris lumbricoides detection from digital microscopic fecal sample images. In *International Conference on Computational Science and Information Management (ICoCSIM)*, vol. 1. 59–62, 2012. URL http://umpir.ump.edu.my/id/eprint/3640/1/11-ICoCSIM.pdf.

[38] Otsu, N. A threshold selection method from gray-level histograms. *IEEE Transactions on Systems, Man, and Cybernetics* **9** (1), 62–66, 1979.

[39] Abdalla, M. A. E. & Seker, H. Recognition of protozoan parasites from microscopic images: Eimeria species in chickens and rabbits as a case study. In *39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. 1517–1520, 2017.

[40] Valéria, I. S. *et al.* Automated diagnosis of canine gastrointestinal parasites using image analysis. *Pathogens* **9** (2), 139, 2020.

[41] Chauhan, A. S. *et al.* Image segmentation methods: A survey approach. In *Fourth International Conference on Communication Systems and Network Technologies*. 929–933, 2014.

[42] Zaitoun, N. M. & Aqel, M. J. Survey on image segmentation techniques. *Procedia Computer Science* **65**, 797–806, 2015.

[43] Mohapatra, B. N. Image edge detection techniques. *ACCENTS Transactions on Image Processing and Computer Vision* **5** (15), 15–19, 2019.

[44] Abubakar, F. M. Study of image segmentation by using edge detection techniques. *International Journal of Engineering Research and Technology* **1** (9), 1–5, 2012.

[45] Ansari, M. A. *et al.* A comprehensive analysis of image edge detection techniques. *International Journal of Multimedia and Ubiquitous Engineering* **12** (11), 1–12, 2017.

[46] Ghazali, K. H. *et al.* Automated system for diagnosis intestinal parasites by computerized image analysis. *Modern Applied Science* **7** (5), 98–114, 2013.

[47] Ray, K. *et al.* Detection and identification of parasite eggs from microscopic images of fecal samples. In *Advances in Intelligent Systems and Computing*, vol. 999. 45–55, Springer, 2019.

[48] Flores-Quispe, R. *et al.* Automatic identification of human parasite eggs based on multitexton histogram retrieving the relationships between textons. In *33rd International Conference of the Chilean Computer Science Society (SCCC)*. 102–106, 2014.

[49] Flores-Quispe, R. *et al.* Classification of human parasite eggs based on enhanced multitexton histogram. In *IEEE Colombian Conference on Communications and Computing (COLCOM)*. 1–6, 2014.

[50] Flores-Quispe, R. & Velazco-Paredes, Y. Textons of irregular shape to identify patterns in the human parasite eggs. *Signal & Image Processing: An International Journal (SIPIJ)* **10** (6), 31–47, 2019.

[51] Smereka, M. & Duleba, I. Circular object detection using a modified hough transform. *International Journal of Applied Mathematics and Computer Science* **18** (1), 85–91, 2008.

[52] Nkamgang, O. T. *et al.* A neuro-fuzzy system for automated detection and classification of human intestinal parasites. *Informatics in Medicine Unlocked* **13**, 81–91, 2018.

[53] Nkamgang, O. T. *et al.* Automated extraction of parasite in the microscopic images by distance regularized level set evolution initialized with hough transform. *International Journal of Multimedia and Image Processing (IJMIP)* **9** (1), 474–488, 2019.

[54] Nkamgang, O. T. *et al.* Automated parasite's detection in microscopic images of stools using distance regularized level set evolution initialized with hough transform. *International Journal of Biomedical Engineering and Clinical Science* **5** (3), 45–58, 2019.

[55] Tchiotsop, D. *et al.* Edge detection of intestinal parasites in stool microscopic images using multi-scale wavelet transform. *Signal, Image and Video Processing* **9** (s1), 121–134, 2015.

[56] Kamlesh, K. *et al.* Image edge detection scheme using wavelet transform. In *11th International Computer Conference on Wavelet Actiev Media Technology and Information Processing (ICCWAMTIP)*. 261–265, 2014.

[57] Wan-she, L. & Jin, Z. Application of wavelet transform in edge detection. In *4th International Congress on Image and Signal Processing*, vol. 4. 2173–2176, 2011.

[58] Tchinda, B. S. *et al.* Automatic recognition of human parasite cysts on microscopic stools images using principal component analysis and probabilistic neural network. *International Journal of Advanced Research in Artificial Intelligence* **4** (9), 26–33, 2015.

[59] Tchinda, B. S. *et al.* Towards an automated medical diagnosis system for intestinal parasitosis. *Informatics in Medicine Unlocked* **13**, 101–111, 2018.

[60] Kass, M. *et al.* Snakes: Active contour models. *International Journal of Computer Vision* **1** (4), 321–331, 1988.

[61] Derraz, F. *et al.* Application of active contour models in medical image segmentation. In *International Conference on Information Technology: Coding and Computing*, vol. 2. 675–681, 2004.

[62] Rema, M. & Nair, M. S. Segmentation of human intestinal parasites from microscopy images using localized mean-separation based active contour model. *Biomedical Engineering Letters* **3** (3), 179–189, 2013.

[63] Zhang, J. *et al.* Cascaded-automatic segmentation for schistosoma japonicum eggs in images of fecal samples. *Computers in Biology and Medicine* **52**, 18–27, 2014.

[64] Ritwik, K. *et al.* Radon-like features and their application to connectomics. In *IEEE Computer Society Conference on Computer Vision and Pattern Recognition - Workshops*. 186–193, 2010.

[65] McLaughlin, R. A. Randomized hough transform: Improved ellipse detection with comparison. *Pattern Recognition Letters* **19** (3-4), 299–305, 1998.

[66] Rogowska, J. 5 - overview and fundamentals of medical image segmentation. In BANKMAN, I. N. (ed.) *Handbook of Medical Imaging*, Biomedical Engineering, 69–85, Academic Press, San Diego, 2000.

[67] Preim, B. & Botha, C. Chapter 4 - image analysis for medical visualization. In Preim, B. & Botha, C. (eds.) *Visual Computing for Medicine (Second Edition)*, 111–175, Morgan Kaufmann, Boston, 2014, second edition edn.

[68] Kaur, A. & Aayushi. Image segmentation using watershed transform. *International Journal of Soft Computing and Engineering* **4** (1), 5–8, 2014. URL https://www.ijsce.org/wp-content/uploads/papers/v4i1/A2060034114.pdf.

[69] Suzuki, C. T. N. *et al.* Automated diagnosis of human intestinal parasites using optical microscopy images. In *IEEE 10th International Symposium on Biomedical Imaging*. 460–463, 2013.

[70] Osaku, D. *et al.* Automated diagnosis of intestinal parasites: A new hybrid approach and its benefits. *Computers in Biology and Medicine* **123**, 103917, 2020.

[71] Jiménez, B. *et al.* Identification and quantification of pathogenic helminth eggs using a digital image system. *Experimental Parasitology* **166**, 164–172, 2016.

[72] Kumar, J. M. *et al.* Image segmentation using k-means clustering. *International Journal of Advanced Science and Technology* **29** (6s), 3700–3704, 2020. URL http://sersc.org/journals/index.php/IJAST/article/view/23282.

[73] Dhanachandra, N. *et al.* Image segmentation using k -means clustering algorithm and subtractive clustering algorithm. *Procedia Computer Science* **54**, 764–771, 2015.

[74] Khairudin, N. A. A. *et al.* Image segmentation using k-means clustering and otsu's thresholding with classification method for human intestinal parasites. *IOP Conference Series: Materials Science and Engineering* **864**, 012132, 2020.

[75] Khairudin, N. A. A. *et al.* A fast and efficient segmentation of soil-transmitted helminths through various color models and k-means clustering. In *Proceedings of the 11th National Technical Seminar on Unmanned System Technology 2019: NUSYS'19*. 555–576, Springer, 2021.

[76] Bruun, J. M. *et al.* Detection and classification of parasite eggs for use in helminthic therapy. In *9th IEEE International Symposium on Biomedical Imaging (ISBI)*. 1627–1630, 2012.

[77] Li, Z. *et al.* A robust and automatic method for human parasite egg recognition in microscopic images. *Parasitology Research* **114** (10), 3807–3813, 2015.

[78] Kovesi, P. Phase congruency detects corners and edges. In Sun, C. *et al.* (eds.) *VIIth Digital Image Computing: Techniques and Applications*. 309–318, 2003. URL https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.304.8224&rep=rep1&type=pdf.

[79] Long, J. *et al.* Fully convolutional networks for semantic segmentation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. 3431–3440, 2015.

[80] Ronneberger, O. *et al.* U-net: Convolutional networks for biomedical image segmentation. In *Medical Image Computing and Computer-Assisted Intervention - MICCAI*. 234–241, 2015. Lecture Notes in Computer Science.

[81] Minaee, S. *et al.* Image segmentation using deep learning: A survey. *CoRR* **abs/2001.05566**, 2020. URL https://arxiv.org/abs/2001.05566. 2001.05566.

[82] Noh, H. *et al.* Learning deconvolution network for semantic segmentation. In *IEEE International Conference on Computer Vision (ICCV)*. 1520–1528, 2015.

[83] Akintayo, A. *et al.* An end-to-end convolutional selective autoencoder approach to soybean cyst nematode eggs detection. *CoRR* **abs/1603.07834**, 2016. URL http://arxiv.org/abs/1603.07834. 1603.07834.

[84] Akintayo, A. *et al.* A deep learning framework to discern and count microscopic nematode eggs. *Scientific Reports* **8** (1), 9145, 2018.

[85] Najgebauer, P. *et al.* Microscopic sample segmentation by fully convolutional network for parasite detection. In *Artificial Intelligence and Soft Computing*, vol. 11508. 164–171, Springer, 2019.

[86] Górriz, M. *et al.* Leishmaniasis parasite segmentation and classification using deep learning. In *Articulated Motion and Deformable Objects*, vol. 10945. 53–62, Springer, 2018.

[87] Li, Y. *et al.* A low-cost, automated parasite diagnostic system via a portable, robotic microscope and deep learning. *Journal of Biophotonics* **12** (9), e201970031, 2019.

[88] Libouga, I. O. *et al.* A supervised u-net based color image semantic segmentation for detection & classification of human intestinal parasites. *e-Prime-Advances in Electrical Engineering, Electronics and Energy* **2**, 100069, 2022.

[89] Oyibo, P. *et al.* Two-stage automated diagnosis framework for urogenital schistosomiasis in microscopy images from low-resource settings. *Journal of Medical Imaging* **10** (4), 044005–044005, 2023.

[90] Dehner, C. *et al.* Deep-learning-based electrical noise removal enables high spectral optoacoustic contrast in deep tissue. *IEEE Transactions on Medical Imaging* **41** (11), 3182–3193, 2022.

[91] Gaur, L. *et al.* Advancements of deep learning in medical imaging for neurodegenerative diseases, 2024.

[92] Şengül, G. Classification of parasite egg cells using gray level cooccurence matrix and knn. *Biomedical research* **27** (3), 829–834, 2016.

[93] Inácio, S. V. *et al.* Automated diagnosis of canine gastrointestinal parasites using image analysis. *Pathogens* **9** (2), 139, 2020.

[94] Butploy, N. *et al.* Deep learning approach for ascaris lumbricoides parasite egg classification. *Journal of parasitology research* **2021**, 2021.

[95] Suwannaphong, T. *et al.* Parasitic egg detection and classification in low-cost microscopic images using transfer learning. *SN Computer Science* **5** (1), 82, 2023.

[96] Viet, N. Q. *et al.* Parasite worm egg automatic detection in microscopy stool image based on faster r-cnn. In *Proceedings of the 3rd International Conference on Machine Learning and Soft Computing*, ICMLSC 2019. 197–202, Association for Computing Machinery, New York, NY, USA, 2019.

[97] Kitvimonrat, A. *et al.* Automatic detection and characterization of parasite eggs using deep learning methods. In *17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON)*. 153–156, 2020.

[98] Qiaoliang, L. *et al.* Fecalnet: Automated detection of visible components in human feces using deep learning. *Medical Physics* **47** (9), 4212–4222, 2020.

[99] Kumar, S. *et al.* An efficient and effective framework for intestinal parasite egg detection using yolov5. *Diagnostics* **13** (18), 2978, 2023.

[100] Derivaux, S. *et al.* On machine learning in watershed segmentation. In *2007 IEEE Workshop on Machine Learning for Signal Processing*. 187–192, IEEE, 2007.

[101] Liu, Z. *et al.* Swin transformer: Hierarchical vision transformer using shifted windows, 2021. URL https://arxiv.org/abs/2103.14030. 2103.14030.

[102] Chen, X. *et al.* An empirical study of training self-supervised vision transformers. In *Proceedings of the IEEE/CVF international conference on computer vision*. 9640–9649, 2021.

[103] Goodfellow, I. *et al.* Generative adversarial nets. *Advances in neural information processing systems* **27**, 2014.

[104] Yi, X. *et al.* Generative adversarial network in medical imaging: A review. *Medical image analysis* **58**, 101552, 2019.

[105] Tzutalin. LabelImg. https://github.com/tzutalin/labelImg, 2015. Git code.

[106] Tkachenko, M. *et al.* Label Studio: Data labeling software, 2020-2022. URL https://github.com/heartexlabs/label-studio. Open source software available from https://github.com/heartexlabs/label-studio.

[107] Moonh, D. M. K. Converting color images to grayscale. https://do-marlay-ka-moonh.medium.com/converting-color-images-to-grayscale-ab0120ea2c1e, 2017. Accessed: 2018-03-17.

[108] Kumar, S. *et al.* Medical image edge detection using gauss gradient operator. *Journal of Pharmaceutical Sciences and Research* **9** (5), 695, 2017.

[109] Robinson, G. S. Edge detection by compass gradient masks. *Computer graphics and image processing* **6** (5), 492–501, 1977.

[110] Dharampal, V. M. Methods of image edge detection: A review. *Journal of Electrical & Electronic Systems* **4** (2), 5, 2015.

[111] Kaur, S. & Singh, I. Comparison between edge detection techniques. *International Journal of Computer Applications* **145** (15), 15–18, 2016.

[112] Dhar, R. *et al.* An analysis of canny and laplacian of gaussian image filters in regard to evaluating retinal image. In *2014 International Conference on Green Computing Communication and Electrical Engineering (ICGCCEE)*. 1–6, IEEE, 2014.

[113] Chen, Q. *et al.* Watershed segmentation for binary images with different distance transforms. In *Proceedings of the 3rd IEEE international workshop on haptic, audio and visual environments and their applications*, vol. 2. 111–116, 2004.

[114] Just Kjeldgaard Pedersen, S. Circular hough transform. *Aalborg University, Vision, Graphics* , 2007.

[115] Yuen, H. *et al.* Comparative study of hough transform methods for circle finding. *Image and vision computing* **8** (1), 71–77, 1990.

[116] Rosebrock, A. (faster) non-maximum suppression in python, 2015. URL https://pyimagesearch.com/2015/02/16/faster-non-maximum-suppression-python/.

[117] Hu, M.-K. Visual pattern recognition by moment invariants. *IRE Transactions on Information Theory* **8** (2), 179–187, 1962.

[118] Teague, M. R. Image analysis via the general theory of moments. *Josa* **70** (8), 920–930, 1980.

[119] Saharia, S. *et al.* A comparative study on discrete orthonormal chebyshev moments and legendre moments for representation of printed characters. In *ICVGIP*, vol. 4. 491–496, Citeseer, 2004.

[120] Shu, H. *et al.* An efficient method for computation of legendre moments. *Graphical Models* **62** (4), 237–262, 2000.

[121] Yap, P.-T. & Paramesran, R. An efficient method for the computation of legendre moments. *IEEE Transactions on Pattern Analysis and Machine Intelligence* **27** (12), 1996–2002, 2005.

[122] Liao, S. X. & Pawlak, M. On image analysis by moments. *IEEE Transactions on Pattern analysis and machine intelligence* **18** (3), 254–266, 1996.

[123] Mukundan, R. *et al.* Image analysis by tchebichef moments. *IEEE Transactions on image Processing* **10** (9), 1357–1364, 2001.

[124] Mukundan, R. *et al.* Discrete orthognal moment features using chebyshev polynomials , 2000.

[125] Krawtchouk, M. On interpolation by means of orthogonal polynomials. *Memoirs Agricultural Inst. Kyiv* **4**, 21–28, 1929.

[126] Yap, P.-T. *et al.* Image analysis by krawtchouk moments. *IEEE Transactions on image processing* **12** (11), 1367–1377, 2003.

[127] Haralick, R. M. *et al.* Textural features for image classification. *IEEE Transactions on Systems, Man, and Cybernetics* **SMC-3** (6), 610–621, 1973.

[128] Davies, E. Chapter 7 - texture analysis. In Davies, E. (ed.) *Computer Vision (Fifth Edition)*, 185–200, Academic Press, 2018, fifth edition edn. URL https://www.sciencedirect.com/science/article/pii/B9780128092842000071.

[129] Sebastian V, B. *et al.* Gray level co-occurrence matrices: generalisation and some new features. *arXiv preprint arXiv:1205.4831* , 2012.

[130] Brynolfsson, P. *et al.* Haralick texture features from apparent diffusion coefficient (adc) mri images depend on imaging and pre-processing parameters. *Scientific reports* **7** (1), 4041, 2017.

[131] Wirth, M. A. Shape analysis and measurement. *Image processing group* 1–49, 2004.

[132] Liu, J. & Shi, Y. Image feature extraction method based on shape characteristics and its application in medical image analysis. In *Applied Informatics and Communication: International Conference, ICAIC 2011, Xi'an, China, August 20-21, 2011, Proceedings, Part I.* 172–178, Springer, 2011.

[133] Ronneberger, O. *et al.* U-net: Convolutional networks for biomedical image segmentation. In *Medical image computing and computer-assisted intervention–MICCAI 2015: 18th international conference, Munich, Germany, October 5-9, 2015, proceedings, part III 18.* 234–241, Springer, 2015.

[134] Simonyan, K. & Zisserman, A. Very deep convolutional networks for large-scale image recognition. *arXiv preprint arXiv:1409.1556* , 2014.

[135] Tammina, S. Transfer learning using vgg-16 with deep convolutional neural network for classifying images. *International Journal of Scientific and Research Publications (IJSRP)* **9** (10), 143–150, 2019.

[136] Russakovsky, O. *et al.* Imagenet large scale visual recognition challenge. *International journal of computer vision* **115**, 211–252, 2015.

[137] Grijalva, F. *et al.* Automatic identification of intestinal parasites in reptiles using microscopic stool images and convolutional neural networks. *bioRxiv* 2022–02, 2022.

[138] Savitha, V. *et al.* Parasitic egg detection from microscopic images using convolutional neural networks. *Tamjeed Journal of Healthcare Engineering and Science Technology* **1** (1), 24–34, 2023.

[139] Ren, S. *et al.* Faster r-cnn: Towards real-time object detection with region proposal networks, 2016. 1506.01497.

# Publications based on the Thesis Works

## Journals

1. Ray, Kaushik, Sarat Saharia, and Nityananda Sarma. "Segmentation Approaches of Parasite Eggs in Microscopic Images: A Survey." SN Computer Science 5.4 (2024): 401.

2. Ray, Kaushik, Sarat Saharia, and Nityananda Sarma. "Detection and identification of ascaris lumbricoides and necator americanus eggs in microscopic images of faecal samples of pigs." International Journal of Automation and Control 15.3 (2021): 378-402.

## Conferences/Book Chapters/Workshops

1. Ray, Kaushik, Sarat Saharia, and Nityananda Sarma. "A study on classification accuracy of different features in identification of parasite eggs from microscopic images of fecal samples." Proceedings of the International Conference on Computing and Communication Systems: I3CS 2020, NEHU, Shillong, India. Springer Singapore, 2021.

2. Ray, Kaushik, et al. "Detection and identification of parasite eggs from microscopic images of fecal samples." Computational Intelligence in Pattern Recognition: Proceedings of CIPR 2019. Springer Singapore, 2020.