DAFTAR PUSTAKA

[1] T. Terwilliger and M. Abdul-Hay, "Acute lymphoblastic leukemia: a comprehensive review and 2017 update," *Blood Cancer J.*, vol. 7, no. 6, p. e577, 2017.

[2] J. S. Lilleyman, I. M. Hann, R. F. Stevens, B. Eden, and S. M. Richards, "French American British (FAB) morphological classification of childhood lymphoblastic leukaemia and its clinical importance," *J Clin Pathol*, vol. 39, no. April, pp. 998–1002, 1986.

[3] G. Abdul-Hamid, "Classification of Acute Leukemia," *Acute Leuk. - Sci. Perspect. Chall.*, 2011.

[4] S. Mohapatra, "Automated Cell Nucleus Segmentation and Acute Leukemia Detection in Blood Microscopic Images," *Int. Conf. Syst. Med. Biol.*, no. December, pp. 49–54, 2010.

[5] G. P. Browman, P. B. Neame, and P. Soamboonsrup, "The contribution of cytochemistry and immunophenotyping to the reproducibility of the FAB classification in acute leukemia.," *Blood J.*, vol. 68, no. 4, pp. 900–905, 1986.

[6] A. Rahyagara, "Deteksi Jenis Sel Darah Putih Menggunakan Convolutional Neural Network," Universitas Gadjah Mada, Yogyakarta, 2018.

[7] L. Putzu, C. Di Ruberto, and G. Caocci, "Leucocyte classification for leukaemia detection using image processing techniques," *Artif. Intell. Med.*, vol. 62, no. 3, pp. 179–191, 2014.

[8] E. U. Francis, M. Y. Mashor, R. Hassan, and A. A. Abdullah, "Screening of bone marrow slide images for Leukemia using Multilayer Perceptron (MLP)," *2011 IEEE Symp. Ind. Electron. Appl. ISIEA 2011*, pp. 643–648, 2011.

[9] S. Mishra, B. Majhi, P. K. Sa, and L. Sharma, "Biomedical Signal Processing and Control Gray level co-occurrence matrix and random forest based acute lymphoblastic leukemia detection," *Biomed. Signal Process. Control*, vol. 33, pp. 272–280, 2017.

[10] M. Mustaghfirin, "Analisis Fitur Citra Sel Darah Putih Muda dengan Menggunakan Metode Statistik," Universitas Gadjah Mada, 2017.

[11] A. Forsl, "An investigation of recent Deep Learning Techniques applied to blood cell image analysis," Lund University, 2018.

[12] S. Sabour and G. E. Hinton, "Dynamic Routing Between Capsules," *31st*

Conf. Neural Inf. Process. Syst. (NIPS 2017, no. Nips, pp. 3859–3869, 2017.

[13] A. I. Shahin, Y. Guo, K. M. Amin, and A. A. Sharawi, "White blood cells identification system based on convolutional deep neural learning networks," *Comput. Methods Programs Biomed.*, vol. 168, pp. 69–80, 2017.

[14] N. Chatap and S. Shibu, "Analysis of blood samples for counting leukemia cells using Support vector machine and nearest neighbour," *IOSR J. Comput. Eng.*, vol. 16, no. 5, pp. 79–87, 2014.

[15] S. Dumyan and A. Gupta, "An Enhanced Technique for Lymphoblastic Cancer Detection Using Artificial Neural Network," *Int. J. Adv. Res. Comput. Sci. Electron. Eng.*, vol. 6, no. 4, pp. 38–42, 2017.

[16] A. Rehman, N. Abbas, and T. Saba, "Classification of acute lymphoblastic leukemia using deep learning," *Microsc. Res. Tech.*, vol. 81, no. August, pp. 1310–1317, 2018.

[17] T. Ttp, G. N. Pham, J. Park, K. Moon, and K. Kwon, "Acute Leukemia Classification Using Convolution Neural Network in Clinical Decision Support System," *Int. Conf. Soft Comput. Artif. Intell. Appl. (SAI 2017)*, pp. 49–53, 2017.

[18] T. T. P. Thanh, C. Vununu, S. Atoev, S. Lee, and K. Kwon, "Leukemia Blood Cell Image Classification Using Convolutional Neural Network," *Int. J. Comput. Theory Eng.*, vol. 10, no. 2, pp. 54–58, 2018.

[19] M. E. Billah, "Classifying Microscopic Images for Acute Lymphoblastic Leukemia (ALL) using Bayesian Convolutional Neural Networks," Örebro University, 2018.

[20] S. Shafique and S. Tehsin, "Acute Lymphoblastic Leukemia Detection and Classification of Its Subtypes Using Pretrained Deep Convolutional Neural Networks," *Technol. Cancer Res. Treat.*, vol. 17, pp. 1–7, Jan. 2018.

[21] C. Smith, "Hematopoietic stem cells and hematopoiesis," *Cancer Control*, vol. 10, no. 1, pp. 9–16, 2003.

[22] C. V, R. C, S. A, C. R, C. M, and B. A, "Acute lymphoblastic leukemia," 2018. [Online]. Available: https://www.orpha.net/data/patho/GB/uk-ALL.pdf. [Accessed: 05-Jul-2019].

[23] L. & L. Society, "The Lymphoma Guide - Information for Patients and Caregivers," 2013. [Online]. Available: https://lymphoma-action.org.uk/sites/default/files/media/documents/2018-02/LA_Intro_to_lymphoma_MAR18 incorporating non conformity.pdf. [Accessed: 04-Jul-2019].

[24] T. G. Uhm, B. S. Kim, and I. Y. Chung, "Eosinophil Development and Roles in Asthma AAIR," *Allergy Asthma Immunol Res*, vol. 4, no. 2, pp. 68–79, 2012.

[25] Sysmex-europe.com, "Classification of Neutrophilic Granulocytes," *Sysmex*. [Online]. Available: https://www.sysmex-europe.com/media-center/classification-of-neutrophilic-granulocytes-1348.html. [Accessed: 28-Jun-2019].

[26] J. E. Goasguen, J. M. Bennett, B. J. Bain, T. Vallespi, R. Brunning, and G. J. Mufti, "Morphological evaluation of monocytes and their precursors," *Haematologica*, vol. 94, no. 7, pp. 994–997, 2009.

[27] EClinPath.com, "Nucleated RBC," *Cornell University*. [Online]. Available: http://eclinpath.com/hematology/morphologic-features/red-blood-cells/nucleated-rbcs/. [Accessed: 28-Jun-2019].

[28] H. A. Minges Wols, "Plasma Cells," in *Encyclopedia of Life Sciences*, Chichester: John Wiley & Sons, Ltd, 2006, pp. 1–8.

[29] R. Arora and B. Arora, "Acute leukemia in children: A review of the current Indian data," *South Asian J. Cancer*, vol. 5, no. 3, p. 155, 2016.

[30] H. Kolivand and M. S. Sunar, "Real- Time Sky Color with Effect of Sun ' s Position," *Int. J. Sci. Eng. Res.*, vol. 2, no. 11, 2015.

[31] C. Saravanan, "Color Image to Grayscale Image Conversion," in *2010 Second International Conference on Computer Engineering and Applications*, 2010, no. January, pp. 196–199.

[32] A. K. Gupta and D. J. Bora, "A Novel Color Image Segmentation Approach Based On K-Means Clustering with Proper Determination of the Number of Clusters and Suitable Distance Metric," *Int. J. Comput. Sci. Eng. Technol.*, vol. 7, no. 09, pp. 395–409, 2016.

[33] P. Ganesan and V. Rajini, "Value Based Semi Automatic Segmentation of Satellite Images using HSV Color Space, Histogram Equalization and modified FCM Clustering Algorithm," *Int. Conf. Green Comput. Commun. Conserv. Energy*, vol. 8, pp. 77–82, 2013.

[34] D. H. Ballard and C. M. Brown, *Computer Vision*. New York: Prentice-Hall, 1982.

[35] S. Kim and R. Casper, "Applications of Convolution in Image Processing with MATLAB," University of Washington, 2013.

[36] "Why Tensorflow." [Online]. Available: https://www.tensorflow.org/about. [Accessed: 15-Jun-2019].

[37] "Keras." [Online]. Available: https://www.tensorflow.org/guide/keras. [Accessed: 15-Jun-2019].

[38] D. P. Kingma and J. Ba, "Adam: A Method for Stochastic Optimization," *Int. Conf. Learn. Represent.*, pp. 1–15, Dec. 2014.

[39] R. Yedida and S. Saha, "A novel adaptive learning rate scheduler for deep

neural networks," *eprint arXiv:1902.07399*, Feb. 2019.

[40] C. Nwankpa, W. Ijomah, A. Gachagan, and S. Marshall, "Activation Functions: Comparison of trends in Practice and Research for Deep Learning," *eprint arXiv:1811.03378*, pp. 1–20, Nov. 2018.

[41] V. Nair and G. E. Hinton, "Rectified Linear Units Improve Restricted Boltzmann Machines," *e 27th Int. Confer- ence Mach. Learn.*, no. 3, pp. 807–814.

[42] S. Ioffe and C. Szegedy, "Batch Normalization: Accelerating Deep Network Training by Reducing Internal Covariate Shift," *32nd Int. Conf. Int. Conf. Mach. Learn.*, vol. 37, pp. 448–456, Feb. 2015.

[43] C. Stephanidis *et al.*, "Event Uncertainty," *Encycl. Database Syst.*, vol. 2005, pp. 1068–1068, 2009.

[44] M. Sokolova and G. Lapalme, "A systematic analysis of performance measures for classification tasks," *Inf. Process. Manag.*, vol. 45, no. 4, pp. 427–437, 2009.

[45] M. Hossin and M. N. Sulaiman, "A Review on Evaluation Metrics For Data Classification Evaluation," *Int. J. Data Min. Knowl. Manag. Process*, vol. 5, no. 2, pp. 1–11, 2015.

[46] W. M. P. Van Der Aalst, V. Rubin, H. M. W. Verbeek, B. F. Van Dongen, E. Kindler, and C. W. Günther, "Process mining: A two-step approach to balance between underfitting and overfitting," *Softw. Syst. Model.*, vol. 9, no. 1, pp. 87–111, 2010.

[47] M. D. L. Maier-hein, A. Franz, P. Jannin, D. L. Collins, S. Duchesne, and D. Hutchison, *Medical Image Computing and Computer-Assisted Intervention – MICCAI 2013*, vol. 8150. 2017.

[48] J. Cho, K. Lee, E. Shin, G. Choy, S. Do, and M. G. Hospital, "How Much Data is needed to Train a Medical Large Deep Learning System to Achieve Necesity High Accuracy?," *Int. Conf. Learn. Represent.*, 2016.

[49] M. Buda, A. Maki, and M. A. Mazurowski, "A systematic study of the class imbalance problem in convolutional neural networks," *Neural Netw.*, vol. 106, pp. 249–259, Oct. 2018.

[50] S. Vatathanavaro, S. Tungjitnob, and K. Pasupa, "White Blood Cell Classification : A Comparison between VGG-16 and ResNet-50 Models," in *The 6th Joint Symposium on Computational Intelligence (JSCI6)*, 2018.

[51] A. Kaur and G. Kaur, "A review on image enhancement with deep learning approach," *Accent. Trans. Image Process. Comput. Vis.*, vol. 4, no. 11, pp. 16–20, May 2018.

[52] K. He, X. Zhang, S. Ren, and J. Sun, "Deep Residual Learning for Image Recognition," in *2016 IEEE Conference on Computer Vision and Pattern*

Recognition (CVPR), 2016, pp. 770–778.

[53] K. Simonyan and A. Zisserman, "Very Deep Convolutional Networks for Large-Scale Image Recognition," *Int. Conf. Learn. Represent.*, pp. 1–14, 2015.

[54] L. Blier, "A Brief Report of The Heuritech Deep Learning Meetup 5," 2016. [Online]. Available: https://web.archive.org/web/20170619033650/https://blog.heuritech.com/2016/02/29/a-brief-report-of-the-heuritech-deep-learning-meetup-5/. [Accessed: 15-Jun-2019].

[55] I. Melekhov, J. Kannala, and E. Rahtu, "Image Patch Matching Using Convolutional Descriptors with Euclidean Distance," *Comput. Vis. – ACCV 2016 Work.*, vol. 10118, pp. 638–653, Oct. 2017.

[56] L. Wang, "Heterogeneous Data and Big Data Analytics," *Autom. Control Inf. Sci.*, vol. 3, no. 1, pp. 8–15, 2017.

[57] F. Last, G. Douzas, and F. Bacao, "Oversampling for Imbalanced Learning Based on K-Means and SMOTE," *eprint arXiv:1711.00837*, pp. 1–19, Nov. 2017.

[58] R. Mukhometzianov and J. Carrillo, "CapsNet comparative performance evaluation for image classification," *eprint arXiv:1805.11195*, pp. 1–14, May 2018.