REFERENCES

[1] M. S. C. Morgan and M. S. Pearle, "Medical management of renal stones," *Bmj*, vol. 2005, p. i52, 2016.

[2] Y. Liu *et al.*, "Epidemiology of urolithiasis in Asia," *Asian J. Urol.*, vol. 5, no. 4, pp. 205–214, 2018.

[3] C. D. Scales, A. C. Smith, J. M. Hanley, and C. S. Saigal, "Prevalence of Kidney Stones in the United States," *Eur. Urol.*, vol. 62, no. 5, pp. 160–165, 2012.

[4] A. R. Morton, E. A. Iliescu, and J. W. L. Wilson, "Nephrology: 1. Investigation and treatment of recurrent kidney stones," *CMAJ*, vol. 166, no. 2, pp. 213–218, 2002.

[5] "Brief Review on Urinary Calculi," in *GROWTH AND CHARACTERIZATION OF STRUVITE AND RELATED CRYSTALS*, 2011, pp. 28–112.

[6] Y. Chou, C. Li, H. Hsu, W. Chang, and C. Liu, "Renal function in patients with urinary stones of varying compositions," *Kaohsiung J. Med. Sci.*, vol. 27, no. 7, pp. 264–267, 2011.

[7] H. Kyi Swe, "MANAGEMENT OF CKD AT PRIMARY LEVEL," Mandalay, Myanmar, 2018.

[8] "SUPPORT LIFE EXPECTANCY RESEARCH!," *WORLD HEALTH ORGANIZATION 2017*, 2017. [Online]. Available: http://www.worldlifeexpectancy.com/myanmar-kidney-disease.

[9] U. C. Jayaraman and A. Gurusamy, "Review on Uro-Lithiasis Pathophysiology and Aesculapian Discussion," *IOSR J. Pharm.*, vol. 8, no. 2, pp. 30–42, 2018.

[10] N. Kidney, U. Diseases, and I. Clearinghouse, "Kidney Stones in Adults," *NIH Publ.*, vol. 13–2495, no. February 2013, pp. 1–12, 2012.

[11] N. Choices, "Kidney stones - Treatment - NHS Choices." .

[12] U.S Department of Health and Human Services, L. MS, and S. CS, "Kidney stones in the kidney and urinary tract," *National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH*, 2012. [Online]. Available: www.niddk.nih.gov.

[13] Mike M Nguyen, "Can kidney stones cause kidney failure or damage? - KidneyStoners.org." [Online]. Available: http://www.kidneystoners.org/information/can-kidney-stones-cause-kidney-failure-2/. [Accessed: 18-Aug-2017].

[14] S. Ebrahimi and V. Y. Mariano, "Image Quality Improvement in Kidney Stone Detection on Computed Tomography Images," *J. Image Graph.*,

vol. 3, no. 1, pp. 40–46, 2015.

[15] K. Viswanath, R. Gunasundari, and S. A. Hussain, "Analysis of Kidney Stone Detection by Reaction Diffusion Level Set Segmentation and Xilinx System Generator," *Proc. 2015 Int. Conf. Adv. Res. Comput. Sci. Eng. & Technol. (ICARCSET 2015)*, vol. 2015, p. 36:1--36:9, 2015.

[16] "Kidney Stones - Overview - NY Times Health." [Online]. Available: http://www.nytimes.com/health/guides/disease/kidney-stones/diagnosis.html?print=1. [Accessed: 14-Sep-2017].

[17] M. Nazih and M. Ibrahim, "A non-invasive diagnostic system for early assessment of acute renal transplant rejection .," university of Louisville, 2016.

[18] W. P. Springhart and G. M. Preminger, "Advanced imaging in stone management.," *Curr. Opin. Urol.*, vol. 14, no. 2, pp. 95–8, Mar. 2004.

[19] D. H. Sheafor *et al.*, "Nonenhanced helical CT and US in the emergency evaluation of patients with renal colic: prospective comparison," *Radiology*, vol. 217, no. 3, pp. 792–797, 2000.

[20] Y. Andrabi, M. Patino, C. J. Das, B. Eisner, D. V Sahani, and A. Kambadakone, "Advances in CT imaging for urolithiasis.," *Indian J. Urol.*, vol. 31, no. 3, pp. 185–93, 2015.

[21] W. Brisbane, M. R. Bailey, and M. D. Sorensen, "An overview of kidney stone imaging techniques," *Nat. Rev. Urol.*, vol. 13, no. 11, pp. 654–662, 2016.

[22] M. Meissnitzer *et al.*, "Comparison of prone vs . supine unenhanced CT imaging in patients with clinically suspected ureterolithiasis," *Abdom. Radiol.*, vol. 42, no. September 2016, pp. 569–576, 2017.

[23] G. Ravichandran and V. Palanivel, "Non-Linear Enhancement and Selection of Plane for Segmenting the Abdominal Image for Kidney Stone Identification," *Int. J. ofAdvanced Res. Electron. Commun. Eng.*, vol. 5, no. 2, pp. 430–434, 2016.

[24] P. Akkasaligar, S. Biradar, and V. Kumber, "Kidney stone detection in Computed Tomorgrahy Images," in *2017 International Conference On Smart Technologies For Smart Nation (SmartTechCon)*, 2017, vol. 6, no. 4, pp. 353–356.

[25] R. Ray, R. Mahapatra, P. Mondal, and D. Pal, "Long-term complications of JJ stent and its management: A 5 years review," *Urol. Ann.*, vol. 7, no. 1, p. 41, 2015.

[26] V. C. Y. Tang and a. Attwell-Heap, "Computed tomography versus ureteroscopy in identification of renal tract stone with ureteral stent in situ," *Ann. R. Coll. Surg. Engl.*, vol. 93, no. 8, pp. 639–641, 2011.

[27] N. N. Latt *et al.*, "Healthcare in Myanmar," *Nagoya J. Med. Sci.*, vol. 78,

no. 2, pp. 123–134, 2016.

[28]   A. J. Yiu, D. Callaghan, R. Sultana, and B. C. Bandyopadhyay, "Vascular Calcification and Stone Disease : A New Look towards the Mechanism," pp. 141–164, 2015.

[29]   L. Shavit *et al.*, "Vascular Calcification and Bone Mineral Density in Recurrent Kidney Stone Formers," *Clin. J. Am. Soc. Nephrol.*, vol. 10, no. 2, pp. 278–285, 2015.

[30]   H. J. Lee *et al.*, "Differentiation of urinary stone and vascular calcifications on non-contrast CT images: An initial experience using computer aided diagnosis," *J. Digit. Imaging*, vol. 23, no. 3, pp. 268–276, 2010.

[31]   K. Stones, "Vessel Calcification May Underlie Link between Kidney Stones and Heart Disease T," vol. 7, no. 3, pp. 3–4, 2015.

[32]   G. Sumana and P. G. A. Babu, "Prediction of Nephrolithiasis Based on Extracted Features of CT-Scan Images using Artificial Neural Networks," *Int. J. Adv. Res. Comput. Sci.*, vol. 8, no. 5, pp. 1700–1708, 2017.

[33]   P. R. Tamilselvi and P. Thangaraj, "Computer aided diagnosis system for stone detection and early detection of kidney stones," *J. Comput. Sci.*, vol. 7, no. 2, pp. 250–254, 2011.

[34]   P. M. Arabi, S. Nigudgi, and R. N. Reddy, "Classification of Kidney Stone Using GLCM," *Int. J. Advacned Netw. Appl.*, pp. 1–3, 2016.

[35]   G. Gilboa, "Introduction to Medical Imaging Week 2: x-ray and CT." Antony Daniels, 2016.

[36]   M. van Eijnatten, R. Van Dijk, J. Dobbe, and J. Wolff, "gCT image segmentation methods for bone used in medical additive manufacturin," *Med. Eng. Phys. (in Press.*, vol. 0, pp. 1–11, 2017.

[37]   K. Krechetova, A. Glaz, and A. Platkajis, "3D medical image visualization and volume estimation of pathology zones," *IFMBE Proc.*, vol. 20 IFMBE, pp. 532–535, 2008.

[38]   M. Lidén, T. Andersson, M. Broxvall, P. Thunberg, and H. Geijer, "Urinary stone size estimation: A new segmentation algorithm-based CT method," *Eur. Radiol.*, vol. 22, no. 4, pp. 731–737, 2012.

[39]   D. Khattab, H. M. Ebied, A. S. Hussein, and M. F. Tolba, "Color image segmentation based on different color space models using automatic GrabCut.," *ScientificWorldJournal.*, vol. 2014, pp. 1–10, 2014.

[40]   H. Hedberg, "A Survey of Various Image Segmentation Techniques," *Dept. Electroscience, Box*, 2010.

[41]   S. Raut, M. Raghuvanshi, R. Dharaskar, and A. Raut, "Image segmentation - A state-of-art survey for prediction," *Proc. - Int. Conf. Adv. Comput. Control. ICACC 2009*, pp. 420–424, 2009.

[42] W. Luo, "Comparison for Edge Detection of Colony Images," *Ijcsns*, vol. 6, no. 9, pp. 211–215, 2006.

[43] Z. Musoromy, S. Ramalingam, and N. Bekooy, "Edge Detection Comparison for License Plate Detection," in *2010 11th International Conference on Control Automation Robotics & Vision*, 2010, no. December, pp. 1133–1138.

[44] P. N. Happ *et al.*, "Multiresolution Segmentation : a Parallel Approach for High Resolution Image Segmentation in Multicore Architectures," *Int. Arch. Photogramm. Remote Sens. Spat. Inf. Sci. Enshede ITC, 2010.*, vol. v.XXXVII.4, 2010.

[45] I. Karoui, R. Fablet, J. M. Boucher, and J. M. Augustin, "Variational region-based segmentation using multiple texture statistics," *IEEE Trans. Image Process.*, vol. 19, no. 12, pp. 3146–3156, 2010.

[46] A. P. A. Park, J. K. J. Kim, S. M. S. Min, S. Y. S. Yun, and K. J. K. Jung, "Graph Cuts-Based Automatic Color Image Segmentation," *2008 Digit. Image Comput. Tech. Appl.*, 2008.

[47] S. Naz, H. Majeed, and H. Irshad, "Image segmentation using fuzzy clustering: A survey," *2010 6th Int. Conf. Emerg. Technol.*, pp. 181–186, 2010.

[48] A. K. Chaubey, "Comparison of The Local and Global Thresholding Methods in Image Segmentation," *World J. Res. Rev.*, vol. 2, no. 1, pp. 1–4, 2016.

[49] R. Srisha and a M. Khan, "Morphological Operations for Image Processing : Understanding and its Applications Morphological Operations for Image Processing : Understanding and its Applications," *NCVSComs-13*, no. February 2015, pp. 17–19, 2013.

[50] W. Zhang and X. Wang, "Feature Extraction and Classification for Human Brain CT Images," *Mach. Learn.*, no. August, pp. 19–22, 2007.

[51] S. Akram, M. Y. Javed, A. Hussain, and F. Riaz, "Intensity-based statistical features for classification of lungs CT scan nodules using artificial intelligence techniques," *J. Exp. Theor. Artif. Intell.*, vol. 27, no. 6, pp. 737–751, 2015.

[52] S. K. Yadav *et al.*, "Observation of dendritic cell morphology under light, phase-contrast or confocal laser scanning microscopy.," *Int. J. Comput. Sci. Inf. Technol.*, vol. 2, no. 6, pp. 354–365, 2013.

[53] P. R. Tamiselvi, "Detection of renal Calculi Using Semi Automatic Segmentation Approach," *Int. J. Eng. Sci. Innov. Technol.*, vol. 2, no. 3, pp. 547–552, 2013.

[54] M. Pathak, H. Sadawarti, and S. Singh, "Features extraction and classification for detection of kidney stone region in ultrasound images," *Int. J. Multidiscip. Res. Dev.*, vol. 3, no. 5, pp. 81–83, 2016.

[55]   J. Verma, M. Nath, P. Tripathi, and K. K. Saini, "Analysis and identification of kidney stone using Kth nearest neighbour (KNN) and support vector machine (SVM) classification techniques," *Pattern Recognit. Image Anal.*, vol. 27, no. 3, pp. 574–580, 2017.

[56]   P. R. Tamilselvi and P. Thangaraj, "Segmentation of Calculi from Ultrasound Kidney Images by Region Indicator with Contour Segmentation Method," *Glob. J. Comput. Sci. Technol.*, vol. 11, no. 22, 2011.

[57]   M. Vallières, C. R. Freeman, S. R. Skamene, and I. El Naqa, "A radiomics model from joint FDG-PET and MRI texture features for the prediction of lung metastases in soft-tissue sarcomas of the extremities," *Phys. Med. Biol.*, vol. 60, no. 14, pp. 5471–5496, Jul. 2015.

[58]   R. Ortiz-ramón, A. Larroza, E. Arana, D. Moratal, and S. Member, "A Radiomics Evaluation of 2D and 3D MRI Texture Features to Classify Brain Metastases from Lung Cancer and Melanoma," in *Intenational Anual Conference of IEEE Engineering in Medicine and Biology Society*, 2017, pp. 493–496.

[59]   The Mathworks Inc., "Measure properties of image regions - MATLAB regionprops," *MATLAB Documentation*. 2013.

[60]   X. Duan *et al.*, "Kidney Stone Volume Estimation from Computerized Tomography Images Using a Model Based Method of Correcting for the Point Spread Function," *J. Urol.*, vol. 188, no. 3, pp. 989–995, 2012.

[61]   D. Legland, K. Kiêu, and M.-F. Devaux, "Computation of Minkowski Measures on 2D and 3D Binary Images," *Image Anal. Stereol.*, vol. 26, no. 2, p. 83, 2011.

[62]   W. Finch, R. Johnston, N. Shaida, A. Winterbottom, and O. Wiseman, "Measuring stone volume - Three-dimensional software reconstruction or an ellipsoid algebra formula?," *BJU Int.*, vol. 113, no. 4, pp. 610–614, 2014.

[63]   T. Paulose, M. Montévil, L. Speroni, F. Cerruti, C. Sonnenschein, and A. M. Soto, "SAMA: A method for 3D morphological analysis," *PLoS One*, vol. 11, no. 4, pp. 1–14, 2016.

[64]   J. Cloutier, L. Villa, O. Traxer, and M. Daudon, "Kidney stone analysis: 'Give me your stone, I will tell you who you are!,'" *World J. Urol.*, vol. 33, no. 2, pp. 157–169, 2014.

[65]   A. Jalalian, S. Mashohor, R. Mahmud, B. Karasfi, M. I. B. Saripan, and A. R. B. Ramli, "Foundation and methodologies in computer-aided diagnosis systems for breast cancer detection," *EXCLI J.*, vol. 16, pp. 113–137, 2017.

[66]   A. Ton, G. Peyré, W. G. Kropatsch, N. M. Artner, S. B. L. Mármol, and L. Cohen, "3D shape matching by geodesic eccentricity," *2008 IEEE*

Comput. Soc. Conf. Comput. Vis. Pattern Recognit. Work. CVPR Work., 2008.

[67] O. Boonsiri, K. Washiya, K. Aoki, and H. Nagahashi, "3D Gray Level Co-Occurrence Matrix Based Classification of Favor Benign and Borderline Types in Follicular Neoplasm Images," no. March, pp. 51–56, 2016.

[68] T.-Y. Kim, N.-H. Cho, G.-B. Jeong, E. Bengtsson, and H.-K. Choi, "3D texture analysis in renal cell carcinoma tissue image grading," *Comput. Math. Methods Med.*, vol. 2014, p. 536217 (12 pp.), 2014.

[69] L. Lu, W. Lv, J. Jiang, Q. Feng, A. Rahmim, and W. Chen, "Robustness of Radiomic Features in [11C]Choline and [18F]FDG PET/CT Imaging of Nasopharyngeal Carcinoma: Impact of Segmentation and Discretization.," *Mol. Imaging Biol.*, vol. 18, no. 6, pp. 935–945, 2016.

[70] J. J. M. van Griethuysen *et al.*, "Computational Radiomics System to Decode the Radiographic Phenotype," *Cancer Res.*, vol. 77, no. 21, pp. e104–e107, 2017.

[71] A. Jeyaraj, "Comparison of Feature Selection Strategies for Classification using Rapid Miner," *Int. J. Innov. Res. Comput. Commun. Eng.*, vol. 4, no. 7, pp. 13556–13563.

[72] M. Kabir and K. Murase, "A new local search based hybrid genetic algorithm for feature selection," *Neurocomputing*, vol. 74, no. 17, pp. 2914–2928, 2011.

[73] M. Zahedi, "Using MI Method for Feature Weighting to Improve Text Classification Performance," *World Comput. Sci. Inf. Technol. J.*, vol. 1, no. 3, pp. 92–95, 2011.

[74] Z. Chengyi, "Feature weighting classification algorithm in the application of text data processing research," *Adv. Sci. Technol. Lett.*, vol. 134, no. Mas, pp. 41–47, 2016.

[75] "A Weighted Feature Selection Method for Instance-Based Classification.pdf," in *17th International Conference, AIMSA 2016*, p. pp 14-25.

[76] L. Chuang, C. Ke, and C. Yang, "A Hybrid Both Filter and Wrapper Feature Selection Method for Microarray Classification," in *IMECS 2008*, 2008, pp. 146–150.

[77] O. Al-harbi, "A Comparative Study of Feature Selection Methods for Dialectal Arabic Sentiment Classification Using Support Vector Machine," *IJCSNS Int. J. Comput. Sci. Netw. Secur.*, vol. 19, no. 1, pp. 167–176, 2019.

[78] E. Bijanzadeh and R. Naderi, "Application of supervised and unsupervised algorithms to find the important features related to barley (Hurdeum vulgare L .) grain yield : A new vista in data mining," *Austrialian J. Crop Sci.*, vol. 8, no. 12, pp. 1590–1596, 2014.

[79] R. GmbH, "RapidMiner 9 Operator Reference Manual." [Online]. Available: www.rapidminer.com.

[80] N. N. Watier, C. Lamontagen, and S. Chartier, "What does the mean mean ?," *J. Stat. Educ.*, vol. 19, no. 2, pp. 1–20, 2011.

[81] A. Pandey and A. Jain, "Comparative Analysis of KNN Algorithm using Various Normalization Techniques," *I. J. Comput. Netw. Inf. Secur. IJCNIS*, vol. 9, no. November, pp. 36–42, 2017.

[82] P. M. Patil, "Review on Prediction of Chronic Kidney Disease Using Data Mining Techniques," *Int. J. Comput. Sci. Mob. Comput.*, vol. 5, no. 5, pp. 135–141, 2016.

[83] R. E. Corresponding, A. Rezaei, and B. Minaei-bidgoli, "Comparison of Classification Methods Based on the Type of Attributes and Sample Size," *J. Converg. Inf. Technol.*, vol. 4, no. 3, pp. 94–102, 2009.

[84] T. Edition, *Data Mining Concepts and Techniques*, Thirt Edit. 2012.

[85] B. Baykara, *Impact of Evaluation Methods on Decision Tree Accuracy Batuhan Baykara*, no. April. 2015.

[86] H. L. PAYAM REFAEILZADEH, LEI TANG, "Cross Validation," *Encycl. Database Syst. Springer*, pp. 532–538, 2009.

[87] E. Karyadiputra and N. Hijriana, "Analisis Penerapan Algoritma Naive Bayes Untuk Klasifikasi Prioritas Pengembangan Jalan Di Provinsi Kalimantan Selatan," *Technologia*, vol. 9, no. 2, pp. 105–108, 2018.

[88] I. H. Witten and E. Frank, *Data Mining: Practical machine learning tools and techniques*. San Francisco, 2011.

[89] W. Zhu, N. Zeng, and N. Wang, "Sensitivity, specificity, accuracy, associated confidence interval and ROC analysis with practical SAS® implementations.," *Northeast SAS Users Gr. 2010 Heal. Care Life Sci.*, pp. 1–9, 2010.

[90] G. Chevreau *et al.*, "Estimation of urinary stone composition by automated processing of CT images .," pp. 1–11.

[91] B. Assadourian and E. Vega, "CT for Technologists: 2. Image Formation, Reconstruction, and Artifacts," *International Center for Postgraduate Medical Education (icpme)*, 2014. [Online]. Available: https://courses.icpme.us/class_learn?course=433%0D.

[92] A. El-shehaby and L. G. E. Taha, "A Novel Classifier Ensample for Combining Pixel-Based and Object Based Classification Methods for Improving Feature Extraction from LIDAR Intensity Data and LIDAR Derived Layers," *Am. J. Geogr. Inf. Syst.*, vol. 7, no. 3, pp. 75–81, 2018.

[93] K. Moorthy and M. Krishnan, "Prediction of fragmentation of kidney stones : A statistical approach from NCCT images," vol. 10, no. August, pp. 237–240, 2016.

[94] S. Spettel, P. Shah, K. Sekhar, A. Herr, and M. D. White, "Using hounsfield unit measurement and urine parameters to predict uric acid stones," *Urology*, vol. 82, no. 1, pp. 22–26, 2013.

[95] G. S. Marchini, S. Gebreselassie, X. Liu, C. Pynadath, G. Snyder, and M. Monga, "Absolute Hounsfield unit measurement on noncontrast computed tomography cannot accurately predict struvite stone composition.," *J. Endourol.*, vol. 27, no. 2, pp. 162–7, 2013.

[96] Y. Li and J. Wang, "Novel Binary Adaptive Morphological Operators," in *2018 12th IEEE International Conference on Anti-counterfeiting, Security, and Identification (ASID)*, pp. 132–135.

[97] T. Heinonen, P. Dastidar, and H. Frey, "Applications of MR image segmentation," *Int. J. Bioelectromagn.*, vol. 1, no. 1, pp. 35–46, 1999.

[98] P. Kumar and S. Das, "To Study the Biochemical Analysis of Kidney Stone by Using FTIR Spectroscopy in," *Res. Rev. J. Pharm. Anal.*, vol. 2, no. 4, pp. 27–32, 2013.

[99] N. Thein, K. Hamamoto, H. A. Nugroho, and T. B. Adji, "A comparison of three preprocessing techniques for kidney stone segmentation in CT scan images," in *The 11th Biomedical Engineering International Conference (BMEiCON2018)*, 2018.

[100] S. Basu *et al.*, "Developing a Classifier Model for Lung Tumors in CT-scan Images," in *2011 IEEE International Conference on Systems, Man, and Cybernetics*, 2011, pp. 1306–1312.

[101] S. Wang, W. Liu, J. Wu, L. Cao, Q. Meng, and P. J. Kennedy, "Training Deep Neural Networks on Imbalanced Data Sets," in *International Joint Conference on Neural Networks (IJCNN)*, 2016, no. July, pp. 4368–4374.

[102] A. L. Bayo, "Computer aided renal calculi detection using Convolutional Neural Networks." Department of Technology at Orebro University, pp. 10–11, 2016.

[103] N. Khan, A. Adnan, and S. Basar, "Geometric Feature Extraction from Urdu Ligatures," in *International Conference on Recent Advances in Telecommunications, Informatics and Educational Technologies,* pp. 229–236.

[104] M. N. Muhammad, D. S. Raicu, J. D. Furst, and E. Varutbangkul, "Texture versus shape analysis for lung nodule similarity in computed Texture versus Shape Analysis for Lung Nodule Similarity in Computed Tomography Studies," *Int. Soc. Opt. Eng.*, vol. 6919, no. March, 2008.

[105] V. Kotu and D. Bala, "Classification," in *Data Science*, Second Edi., ScienceDirect, 2019, pp. 65–163.

[106] B. M. Cesana, "What p-value must be used as the Statistical Significance Threshold ? $P < 0.005$, $P < 0.01$, $P < 0.05$ or no value at all ?," *J. Sci. Tech. Res.*, vol. 5, no. 4, pp. 1–9, 2018.

[107] T. M. Oshiro, P. S. Perez, and J. A. Baranauskas, "How Many Trees in a Random Forest? How Many Trees in a Random Forest?," in *8th International Conference on Machine Learning and Data Mining in Pattern Recognition*, 2014, no. July 2012, pp. 154–168.