IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, May 2022
Impact Factor: 6.252

Programmed Multi-Classification of Brain Tumor

Suraj Thorat[1], Hrushikesh Tilekar[2], Vaibhav Gohane[3], Prof. Mayuri Agrawal[4]
Students, Department of Computer Engineering[1,2,3]
Faculty, Department of Computer Engineering[1,2,3]
Sinhgad Inst. Smt. Kashibai Navale College of Engineering, Vadgaon Bk. Pune, Maharashtra, India
Savitribai Phule Pune University, Pune, Maharashtra, India
surajthorat985@gmail.com, hrushitilekar@gmail.com, vaibhavgohane2000@gmail.com

Abstract: *In this paper, we propose a brain tumor segmentation and classification method for multi-modality magnetic resonance image scans. The data from multi-modal brain tumor segmentation challenge are utilized which are co-registered and skull stripped, and the histogram matching is performed with a reference volume of high contrast. We are detecting tumor by using preprocessing, segmentation, feature extraction, optimization and lastly classification after that preprocessed images use to classify the tissue .We performed a leave-oneout cross-validation and achieved 88 Dice overlap for the complete tumor region, 75 for the core tumor region and 95 for enhancing tumor region, which is higher than the Dice overlap reported.*

Keywords: CNN, Preprocessing, Feature Extraction

REFERENCES

[1]. E. Holland, "Glioblastoma multiforme: the terminator," Proceedings of the National Academy of Sciences, 97(12), pp.6242-6244.
[2]. K. Urbanska, J. Sokołowska, M. Szmidt, and P. Sysa, 2014. Glioblastoma ´ overview. Contemporary oncology, 18(5), p.307.
[3]. G. Anandgaonkar, G. Sable, 2014. Brain tumor detection and identification from T1 post contrast MR images using cluster based segmentation. International Journal of Science and Research, 3(4), 814-7.
[4]. M. Sujan, N. Alam, S. Abdullah, M. Jahirul, 2016. A Segmentation based Automated System for Brain Tumor Detection. International Journal of Computer Applications, 153(10), 41-49.
[5]. U. ˙Ilhan, A. Ilhan, 2017, 9th International Conference on Theory and Application of Soft Computing, Computing with Words and Perception, ICSCCW.
[6]. The Cancer Imaging Archive, 2017. REMBRANDT. https://wiki.cancerimagingarchive.net/display /Public/REMBRA NDT
[7]. G. Blanchet, and M. Charbit, 2006. Digital signal and image processing using MATLAB (Vol. 4). London: Iste.
[8]. C. Shannon, 1948, A mathematical theory of communication, The Bell Syst. Tech. J. 27, pp. 379–423.
[9]. A. Li, Y. Li, T. Wang, and W. Niu, 2015, October. Medical image segmentation based on maximum entropy multi-threshold segmentation optimized by improved cuckoo search algorithm. In 2015 8th International Congress on Image and Signal Processing (CISP) (pp. 470-475). IEEE.
[10]. K. Win, S. Choomchuay, K. Hamamoto, M. Raveesunthornkiat, "Detection and Classification of Overlapping Cell Nuclei in Cytology Effusion Images Using a Double-Strategy Random Forest", Applied Sciences, 8(9), p.1608, 2018