

Brain Tumor Detection

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Abstract: In this paper, we have proposed a novel brain tumor detection method, which uses a convolutional neural network with a transfer learning approach along with the dimensionality reduction method. A brain tumor is a type of cancer that is difficult to detect. A comparative comparison of multiple strategies based on deep learning for brain tumor identification has been offered in this procedure. In addition, several classifier methods are used in conjunction with threshold segmentation algorithms to locate tumors using picture recognition. Magnetic Resonance gray scale images have been discovered to be more suitable for obtaining accurate results because of this method. The deep learning method was proposed using the Convolutional neural network to predict the outcome with high accuracy

Keywords: Brain tumor, deep learning, Magnetic Resonance Imaging

REFERENCES

- [1] S. Das, O. F. M. R. R. Aranya, N. N. Labiba, Brain tumor classification using convolutional neural network, in: 2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT), IEEE, 2019.
- [2] T. L. Narayana, T. S. Reddy, An efficient optimization technique to detect brain tumor from MRI images, in: 2018 International Conference on Smart Systems and Inventive Technology (ICSSIT), IEEE, 2018.
- [3] H. Mohsen, E.-S. A. El-Dahshan, E.-S. M. El-Horbaty, A.-B. M. Salem, Classification using deep learning neural networks for brain tumors, Future Computing and Informatics Journal 3 (2018) 68–71.
- [4] Jampani Ravi, R. Narmadha, “A Systematic Literature Multimodal Image Fusion Review on Models with Challenges and Future Research Trends”, International Journal of Image and Graphics, pp. 2550039-1- 2550039-33, November, 2023. DOI: 10.1142/S0219467825500391
- [5] Jampani Ravi, R. Narmadha, “Multimodality medical image fusion analysis with multi-plane features of PET and MRI images using ONSCT”, Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, September, 2023. pp. 1-19. <https://doi.org/10.1080/21681163.2023.2255684>
- [6] Jampani Ravi, R. Narmadha, “Optimized Dual-Tree Complex Wavelet Transform-aided Multimodal Image Fusion with Adaptive Weighted Average Fusion Strategy”,
- [7] Jampani Ravi, B. V. Subbamma, P. Vijaya Kumar, Yadavalli S S Sriramam, S. Marlin, Dr. Adlin Sheeba, N. V. Phani Sai Kumar, “Multi Image Fusion: Optimal Decomposition Strategy with Heuristic-assisted Non-Subsampled Shearlet Transform for Multi-modal Image Fusion”, Signal, Image and Video Processing.
- [8] P. Satyanarayana, Jampani Ravi, T. Mahalakshmi, V V Satyanarayana Kona, Dr. V. Gokula Krishnan, “Performance Analysis of DSR and CACHE Customized DSR Steering Protocols in Wireless Mobile Adhoc Networks” Proceedings of the Fifth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), IEEE Xplore Part Number: CFP21OSV-ART; ISBN: 978-1-6654-2642-8, I-SMAC 2021, PP. 1348-1356. DOI: 10.1109/I-SMAC52330.2021.9641042
- [9] P. Satyanarayana, T. Mahalakshmi, Dr. P. Rama Koteswara Rao, Dr. Adlin Sheeba, Jampani Ravi, J. Nageswara Rao, “Enhancement of Energy Efficiency and Network Lifetime Using Modified MPCT Algorithm in Wireless Sensor Networks” Journal of Interconnection Networks, January 18, 2022, PP. 2142019-1- 2142019-22. DOI: 10.1142/S0219265921440126