Research Collaboration Declaration

Title: *"BRAIN TUMOR DETECTION FROM MRI AND CT IMAGES"*

Principal investigators:

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Project description:

This collaborative research study focuses on diagnosing brain tumors from medical images using a combination of image processing and machine learning techniques. Early detection of brain tumors is crucial for improving the chances of patient survival. The study is organized into five chapters, each /addressing a specific aspect of the research
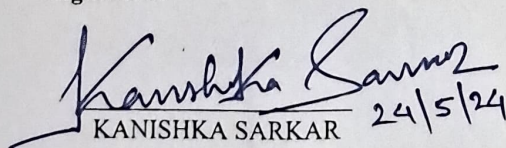
Fundings: NIL

Duration of collaboration: Start Date-July 2019   **End Date-** July 2024

List of publications:

[1] Halder, T. K., Sarkar, K., Mandal, A., & Bagchi, B. (2023). Brain MRI/CT Contrast Enhancement using Hybrid Transformation. In Indian Journal Of Science And Technology (Vol. 16, Issue 31, pp. 2398–2408). Indian Society for Education and Environment. https://doi.org/10.17485/ijst/v16i31.834

[2] Halder, T. K., Sarkar, K., Mandal, A., & Biswas, S. K. (2023). A robust head MRI/CT background removing approach using dynamic morphological operations. In Proceedings of the Indian National Science Academy (Vol. 89, Issue 3, pp. 673–688). Springer Science and Business Media LLC. https://doi.org/10.1007/s43538-023-00175-9

[3] Halder, T. K., Sarkar, K., Mandal, A., & Sarkar, S. (2022). A novel histogram feature for brain tumor detection. In International Journal of Information Technology (Vol. 14, Issue 4, pp. 1883–1892). Springer Science and Business Media LLC. https://doi.org/10.1007/s41870-022-00917-w

[4] Sarkar, K., Halder, T. K., Mandal, A., Biswas, P., Aryal, S., Kundu, B., & Chakraborty, P. (2022). An analysis on SVM and BPNN for CT Patient Table Detection using Distance-verses-angle Signature Feature. In 2022 International Conference on Innovations in Science, Engineering and Technology (ICISET). 2022 International Conference on Innovations in Science, Engineering and Technology (ICISET). IEEE. https://doi.org/10.1109/iciset54810.2022.9775851

[5] Sarkar, K., Halder, T. K., & Mandal, A. (2020). Adaptive power-law and cdf based geometric transformation for low contrast image enhancement. In Multimedia Tools and Applications (Vol. 80, Issue 4, pp. 6329–6353). Springer Science and Business Media LLC. https://doi.org/10.1007/s11042-020-10004-6
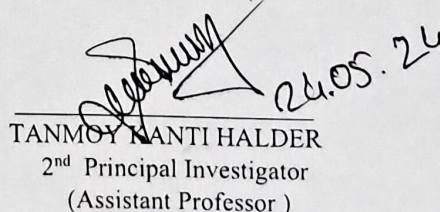
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