LITERATURE SURVEY

Sr No	Paper Title	Year	Authors	Methodology	Dataset	Results						Key Contributions	Limitations	Link
						Accuracy	Precision	Recall	Specificity	Sensitivity	F1-score			
1	Brain Tumor Detection and Classification Using Deep Learning and Sine-Cosine Fitness Grey Wolf Optimization	2023	Hanaa ZainEldin, Samah A. Gamel, El-Sayed M. El-Kenawy, Amal H. Alharbi, Doaa Sami Khafaga, Abdelhameed Ibrahim, Fatma M. Talaat4	BCM-CNN : Inception-ResnetV2 with Adaptive Dynamic Sine-Cosine Fitness Grey Wolf Optimizer for hyperparamter tuning	BRaTS 2021 Task 1 Dataset Link	0.999	-	-	0.9998	0.9998	0.9998	Development of the BCM-CNN with two submodules: hyperparameter optimization and segmentation. Utilization of the ADSCFGWO algorithm, combining strengths from two algorithms.	Smaller dataset with 800 images for training	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9854739/
2	Accurate brain tumor detection using deep convolutional neural network	2022	Md. Saikat Islam Khan, Anichur Rahman, Tanoy Debnath, Md. Razaul Karim,Mostofa Kamal Nasir, Shahab S. Band, Amir Mosavi, Iman Dehzangig	Transfer learning based VGG16 architecture	Harvard Repository link	0.978	0.965	0.964	-	-	0.964	Pretrained model used which gives satisfactory results even on small and imbalanced datasets	Performs binary classification detects whether tumor is present or not. Small dataset used with only 763 images	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9468505/
3	A Deep Analysis of Brain Tumor Detection from MR Images Using Deep Learning Networks	2023	Md Ishtyaq Mahmud, Muntasir Mamun , Ahmed Abdelgawad	Compared performances of CNN, VGG-16, Resnet-50 and Inception V3	Publicly accessible online data on Kaggle link	0.984	-	-	-	-	-	Comparison of CNN with various transfer learning models. CNN achieved best accuracy	An 8-layer shallow CNN model was used due to computational limitations	https://www.mdpi.com/1999-4893/16/4/176
4	Brain tumor detection from MRI images using deep learning techniques	2021	P Gokila Brindha, M Kavinraj, P Manivasakam and P Prasanth	ANN and CNN used to classify MRI images as tumor or no tumor brain	Publicly accessible online data on Github	0.808	-	-	-	-	-	Comparison of 10 layer CNN with ANN for binary classification. CNN achieved better accuracy	Performs binary classification and achieved an accuracy of only 80%	https://iopscience.iop.org/article/10.1088/1757-899X/1055/1/012115
5	Accurate detection of brain tumor using optimized feature selection based on deep learning techniques	2023	Praveen Kumar Ramtekkar, Anjana Pandey & Mahesh Kumar Pawar	Optimized CNN that uses whale optimization and grey wolf optimization for best feature selection.	Publicly accessible online data on Kaggle link	0.964	0.989	1	-	-	0.999	Comparison of CNN models using various optimization techniques including CNN+Whale, CNN+PSO, CNN+GA and CNN+Wolf. Whale optimization + CNN was the best model among them.	Performs binary classification and data set consists of only 253 images overall.	https://link.springer.com/article/10.1007/s11042-023-15239-7
6	Brain tumor detection from images and comparison with transfer learning methods and 3-layer CNN	2024	Mohammad Zafer Khaliki & Muhammet Sinan Başarslan	Convolutional Neural Network (CNN) and CNN-based inception-V3, EfficientNetB4 and VGG19	Publicly accessible online data on Kaggle	0.971	0.982	0.982			0.972	Performed multi-class classification and compared the performance of 3-layer CNN and various transfer learning models. VGG-16 gave the best results,	Limited preprocessing of data was done: no cropping or rotation of images was performed	https://www.nature.com/articles/s41598-024-52823-9
7	Brain Tumor Detection using Convolutional Neural Network	2019	Tonmoy Hossain, Fairuz Shadmani Shishir, Mohsena Ashraf, MD Abdullah Al Nasim, Faisal Muhammad Shah	Seven algorithms including SVM, KNN, Logistic Regression, Naive Bayes, Random Forest , MLP and CNN were compared	BRaTS Binary Classification Dataset	0.979	0.983	-	-	-	-	Among the six traditional machine learning classifiers, SVM gives the most prominent result as it obtained an accuracy of 92.42%, But the 5-layer CNN model gave even better results.	Performs binary classification, uses a smaller dataset	https://ieeexplore.ieee.org/document/8934561