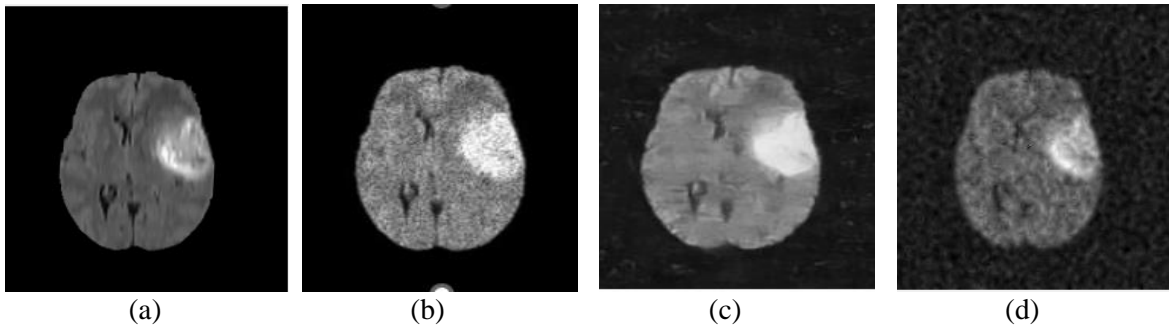
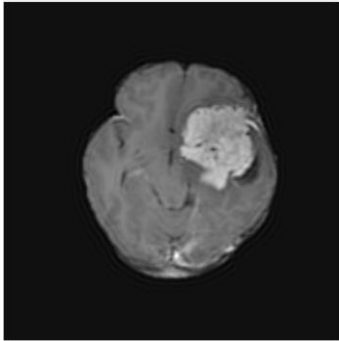


Supplementary Figure 7. Image enhancement from Gaussian noise Tumor-3, PSNR = 22.2, a): image denoising, PSNR = 28.3, b): Contrast enhancement, PSNR = 28.6, c): Enhancing image (fusion 'mean' - 'mean'), PSNR = 28.6, d): Original image; e) PDFs of original image, image denoising and noisy image



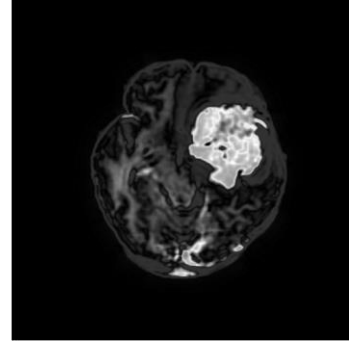
Supplementary Figure 8. Comparison of the image enhancement results, a): The 004 image, b): Noisy image, c): Resulting image of Rao and Srivas, d): Resulting image of the proposed approach.



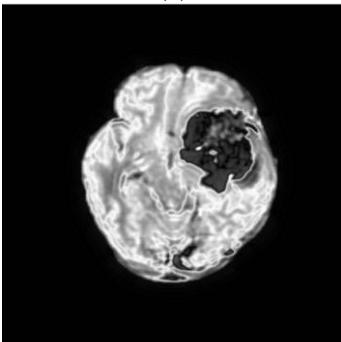
(a)



(b)



(c)



(d)



(e)

Centroids:

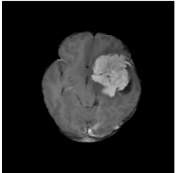
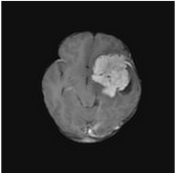


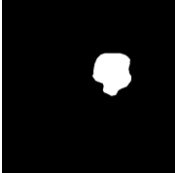
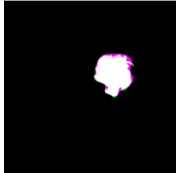
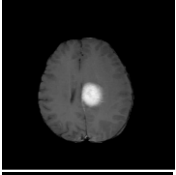
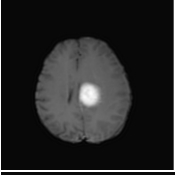
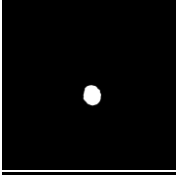
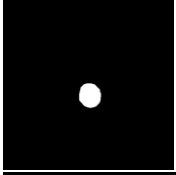
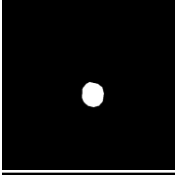

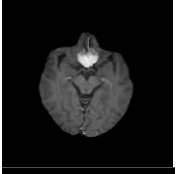
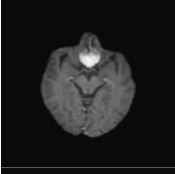
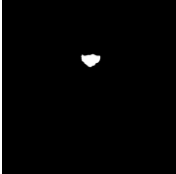
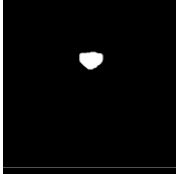
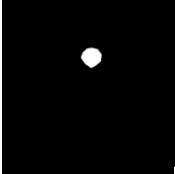
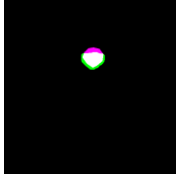
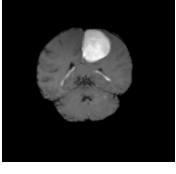
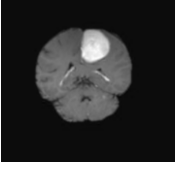


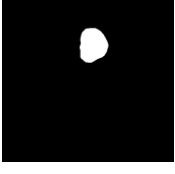

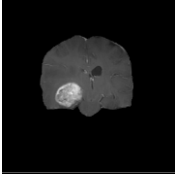
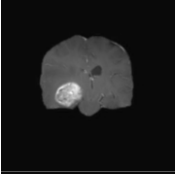

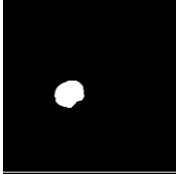
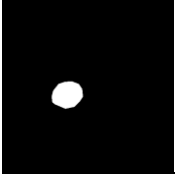

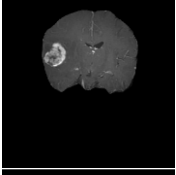
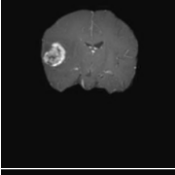
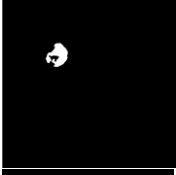
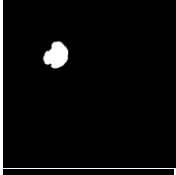
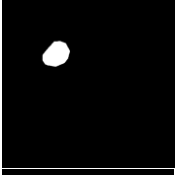
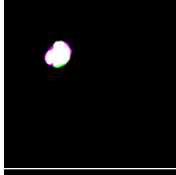
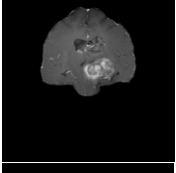
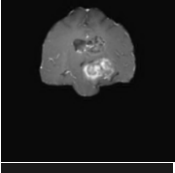

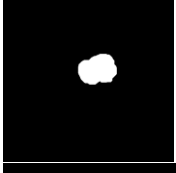
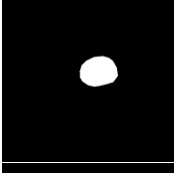
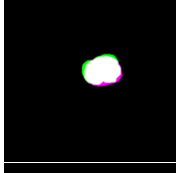
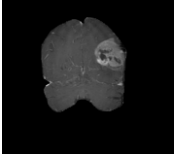
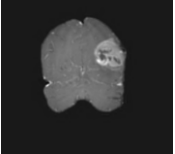



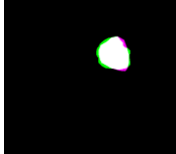
b/ 0.3029

c/ 108.3255

d/ 68.8686

(f)

Supplementary Figure 9. *Clusters of Tumor_3 using C-means, a): Tumor_3 enhancement, b): Cluster 1, c): Cluster 2, d): Cluster 3, e): Binary image of cluster 2, f): Centroids according to clusters.*

Tumor	Tumor Skull Stripped	Enhanced MRI	Raw tumor	Fine tumor	Ground Truth	Detet. Tumor & ground truth
3						
10						
17						
225						
2315						
2407						
2447						
2730						

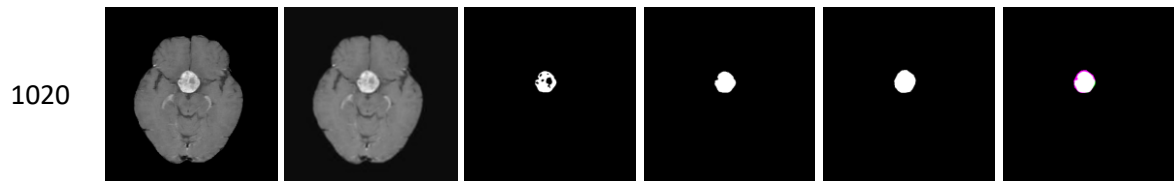
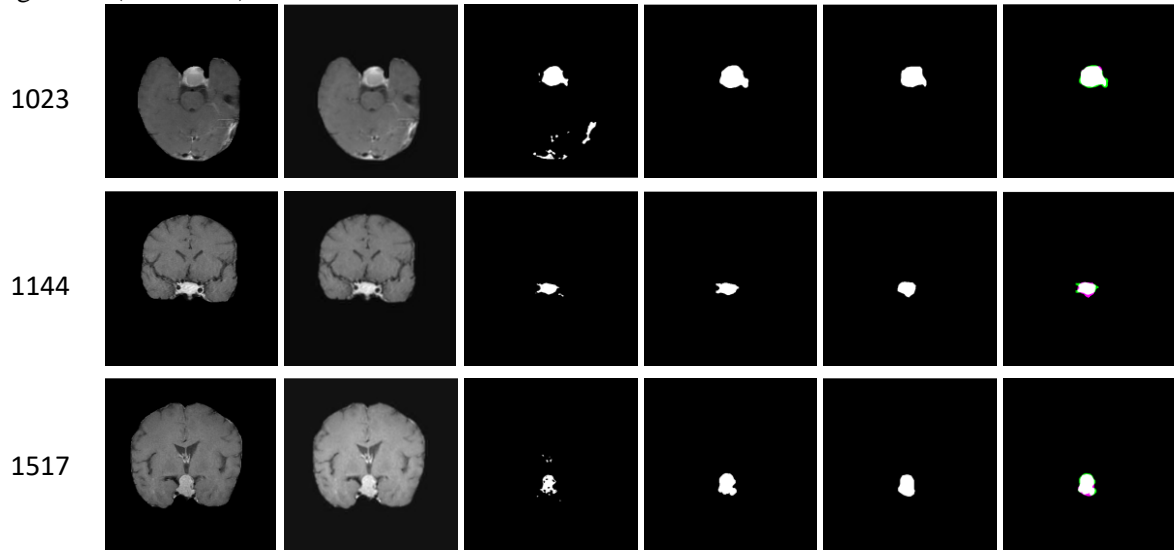
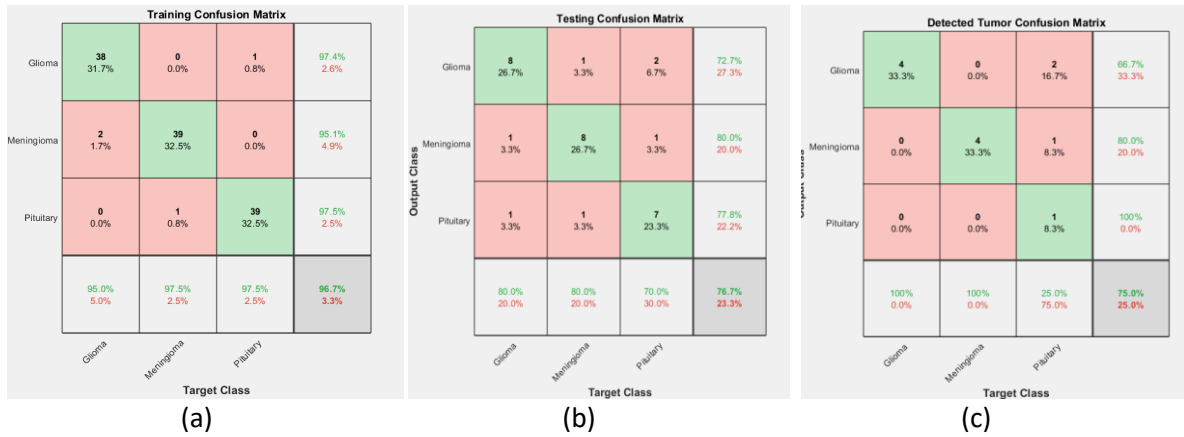


Figure 10 (continued)



Supplementary Figure 10. *Tumor detection results from twelve brain MRIs.*



Supplementary Figure 11. Confusion matrix of classifier model, a): Training, b): Testing, c): Detected tumor data.

