

## Supplement

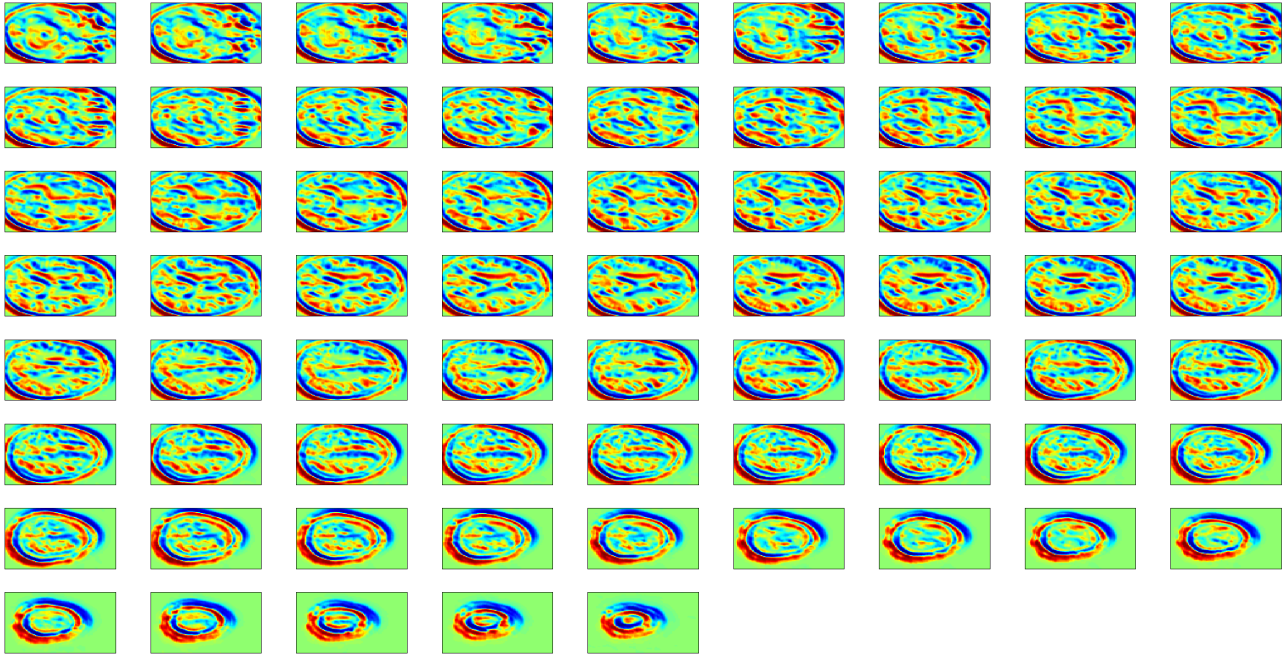


Figure 8. Activation of all the slices using one of the (natural image) bases. This figure clearly shows high correlations of a feature in few consecutive slices. This is an artifact of slice-by-slice treatment during feature extraction.

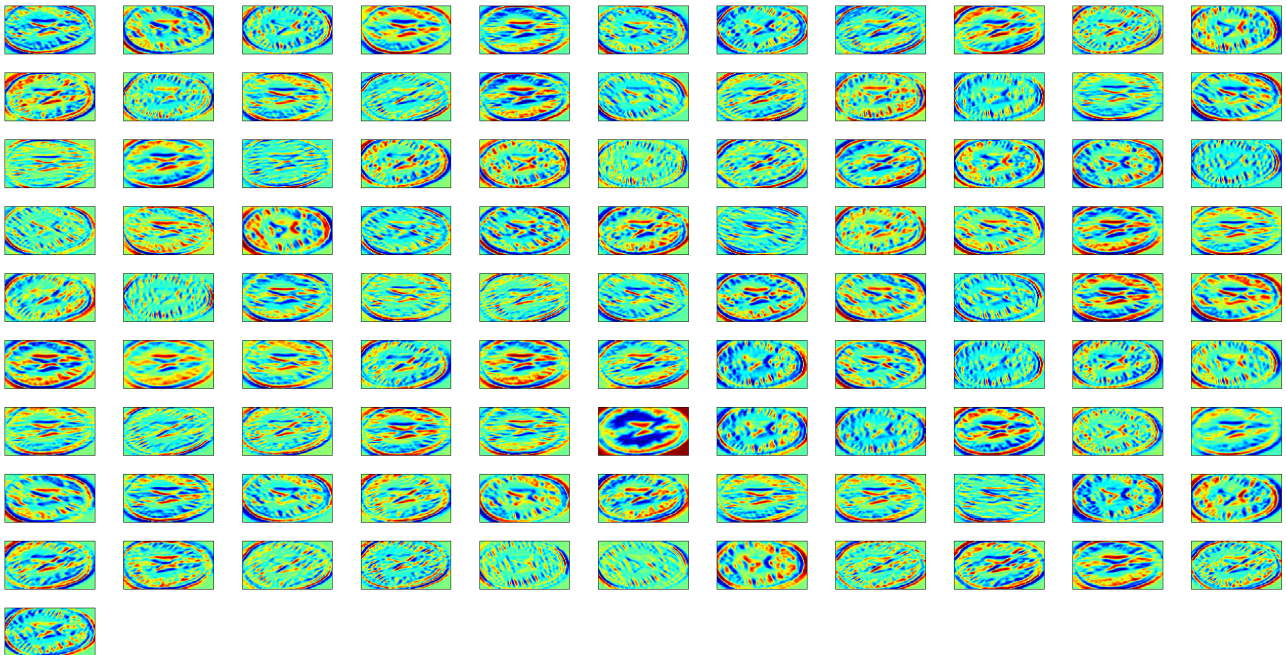


Figure 9. Activation of the median (34<sup>th</sup>) slice using all the (natural image) bases. This figure shows how different bases have higher activations (shown in red) around different areas of brain supposed to be filled with cerebrospinal fluid. By applying max-pooling, we captured some sort of markers leading to high diagnostic accuracy. Given that we have 100 bases and used a grid of size  $3 \times 3$ , we captured 900 such markers from each slice of a scan.