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Application of Machine Learning Algorithms for the detection of brain tumours in images acquired through Magnetic Resonance Imaging

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Abstract

The absence of biological markers makes it exceptionally difficult for neurologists to diagnose a person with a mental disorder. Currently, diagnosis of mental disorders is based on behavioral observations and patient-reported symptoms and the Diagnostic and Statistical Manual of Mental Disorders (DSM), so that different clinicians arrive at the same diagnosis for each patient.

A defiant minority now have started to implement neuroimaging techniques (fMRI, SPECT, PET) for psychiatric disorders, however, there are no solid molecular or imaging basis that are widely accepted for the assessment of mental disorders. (One major reason behind this is the reverse fallacy)

In the past few decades, there have been several attempts at deciphering the etiology of several mental disorders using neuroimaging techniques. Magnetic resonance imaging (MRI) has played a critical role in many such attempts (for its ability to ...). Reverse fallacy.

Here in the proposed research we will be *assessing* MR images of 35 subjects who, are suffering or have suffered, from one major depressive disorder and *making an attempt* at arriving to a comprehensive conclusion about how the "limbic brain network" of patients suffering from Major Depressive Disorder compare to that of healthy individuals who share similar socio-demographic parameters as the subjects.