


Sl No	Particulars		
1	Name of the Candidate	Dr H N Suma	
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3	PhD Thesis Title	Pattern Recognition Techniques for Regionalizing the Activity Patterns of the Human Brain using FMRI (Functional Magnetic Resonance Imaging) Data	
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	Department and Designation	Professor & Head, Department of IS & E.	
5	Date of Registration for PhD	22-09-2004	
	University /Branch	Mysore/ Computer Science	
6	Date of Award of PhD degree	05-03-2010	
7	<p><u>Brief synopsis</u></p> <p>Brain is a complex structure comprising of numerous neurons which perform diverse yet mutually supportive functions. Any task performed by the human is the result of activation of a cluster of neurons. This cluster of neurons in the brain in medical terminology is referred to as activity map. These activity maps are unique and precisely localized for every task that is performed.</p> <p>A recent but fast advancing technique for measuring the brain activity is the fMRI technique. It works by detecting the changes in blood oxygenation and flow that occur in response to neural activity referred to as Blood Oxygenation Level Dependent (BOLD) method and works on the principle that when a brain area is more active, it consumes more oxygen and to meet the increased demand, blood flow increases to the active area. The variations in the magnetic properties of the region due to increased blood flow are captured by an advanced MRI scanner resulting in fMRI scans.</p> <p>An approach towards automating the process of analysis of these activity patterns is thus the need of the day. It not only helps the radiologist/neurosurgeon in understanding the minute details of all the features of the activity pattern but also help in fast diagnosis. The speeding up of the diagnosis process helps them cater to larger patient population in a specified time.</p>		