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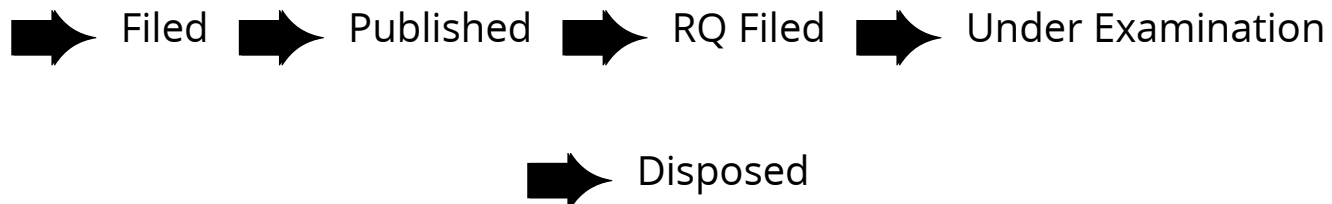


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Application Details	
APPLICATION NUMBER	202041052559
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	02/12/2020
APPLICANT NAME	1 . Dr.Srinivasa Rao Sankranti 2 . Dr.Shankar B. B 3 . Dr.S.China Venkateswarlu 4 . Ms.Ravula Divya 5 . Dr.Lavanya Vadda 6 . Dr.S.Venkatesh Babu 7 . Dr.Kiranmai Babburu 8 . Dr.S.Silas 9 . Mr. A.Muthuvel 10 . Mr.T.Senthil Kumar
TITLE OF INVENTION	AUTOMATIC DETECTION SYSTEM FOR FOCAL EEG SIGNALS WITH ADAPTIVE WAVELET TRANSFORM
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
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E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	11/12/2020

Application Status

APPLICATION STATUS

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Patent Search

Invention Title	AUTOMATIC DETECTION SYSTEM FOR FOCAL EEG SIGNALS WITH ADAPTIVE WAVELET TRANSFORM			
Publication Number	50/2020			
Publication Date	11/12/2020			
Publication Type	INA			
Application Number	202041052559			
Application Filing Date	02/12/2020			
Priority Number				
Priority Country				
Priority Date				
Field Of Invention	MECHANICAL ENGINEERING			
Classification (IPC)	A61B 5/00			
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Abstract:

The functionality of the Human Brain can be understood by an Electroencephalogram (EEG) Signals recorded by the non-invasive procedure from the Human Brain that produces the waves by electric current passed through nerves during the brain activity. These EEG signals are non-stationary, the brain abnormal activity detection is difficult due to the non-stationary nature of EEG Signals. Particularly in detecting the epileptogenic area causes different types of seizure for medical treatment. The Focal EEG Signals are generally recorded when there is abnormality in the Human Brain activity. The present invention disclosed here is an Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform comprising of: EEG Dataset (201); DC Drift Remove (202); Preprocessing (203); HHT Transform (204); Segmentation (205); Feature Extraction (206); Optimization (207); Classification (208); facilitates the Healthcare Practitioners to automatically detecting the Focal EEG Signals to identify the human brain abnormality. The present invention disclosed here uses Adaptive Wavelet Transform for EEG Signals decomposition into rhythms.

Complete Specification

Claims:1. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform comprising of: EEG Dataset (201); DC Drift Remove (202); Preprocessing (203); HHT Transform (204); Segmentation (205); Feature Extraction (206); Optimization (207); Classification (208); facilitates the Healthcare Practitioners to automatically detecting the Focal EEG Signals to identify the human brain abnormality.

2. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein it remove the DC drift present in the EEG Signal before decomposition of EEG signal.

3. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein it performs the preprocessing to separate the high and low frequencies by the LPF and HPF filters.

4. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein it uses Hilbert-Huang Transform to decompose the EEG signal into rhythms.

5. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein wavelet coefficients are scaled and sub-bands are reconstructed to identify the focal EEG.

6. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein statistical features are analyzed and classified by the support vector machine.

7. Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform as claimed in claim 1, wherein provides accuracy of 94.5% in identify the human brain abnormality.

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Page last updated on: 26/06/2019

FORM 1 THE PATENTS ACT, 1970 (39 of 1970) & THE PATENTS RULES, 2003 APPLICATION FOR GRANT OF PATENT [See sections 7, 54 & 135 and rule 20(1)]	(FOR OFFICE USE ONLY) Application No.: Filing Date: Amount of Fee Paid: CBR No.: Signature:
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1. APPLICANT(S):

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2. INVENTOR(S):

Sr.No	Name	Nationality	Address	Country	State
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4	Ms.Ravula Divya	India	Research Scholar, Department of ECE, Mewar university, Chittorgarh, Rajasthan, India. Pin Code: 312001	India	Rajasthan
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9	Mr. A.Muthuvel	India	Assistant Professor, Department of Electronics and Communication Engineering, Mohamed Sathak Engineering College, Kilakarai, Tamil Nadu, India. Pin Code:623806	India	Tamil Nadu
10	Mr.T.Senthil Kumar	India	Assistant Professor, Department of Electronics and Communication Engineering, Mohamed Sathak Engineering College, Kilakarai, Tamil Nadu, India. Pin Code:623806	India	Tamil Nadu

3. TITLE OF THE INVENTION: Automatic Detection System for Focal EEG Signals with Adaptive Wavelet Transform**4. ADDRESS FOR CORRESPONDENCE OF APPLICANT/ AUTHORISED PATENT AGENT IN INDIA:**

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 530045 E-mail: srinul6ssr@gmail.com

5. PRIORITY PARTICULARS OF THE APPLICATION(S) FILED IN CONVENTION COUNTRY:

Sr.No	Country	Application Number	Filing Date	Name of the Applicant	Title of the Invention
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6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION:

International Application Number	International Filing Date as Allotted by the Receiving Office
PCT//	

7. PARTICULARS FOR FILING DIVISIONAL APPLICATION

Original (first) Application Number	Date of Filing of Original (first) Application

8. PARTICULARS FOR FILING PATENT OF ADDITION:

Main Application / Patent Number:	Date of Filing of Main Application

9. DECLARATIONS:

(i) Declaration by the inventor(s):

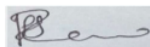
I/We, Dr.Srinivasa Rao Sankranti, Dr.Shankar B. B, Dr.S.China Venkateswarlu, Ms.Ravula Divya, Dr.Lavanya Vadda, Dr.S.Venkatesh Babu, Dr.Kiranmai Babburu, Dr.S.Silas, Mr.A.Muthuvel, Mr.T.Senthil Kumar, is/are the true & first inventor(s) for this invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a)Date: ----- Dated this 02nd day of December, 2020

(b)Signature(s) of the inventor(s):

(c)Name(s):

Dr.Srinivasa Rao Sankranti



Dr.Shankar B. B



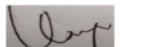
Dr.S.China Venkateswarlu



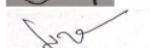
Ms.Ravula Divya



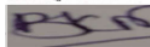
Dr.Lavanya Vadda



Dr.S.Venkatesh Babu



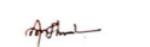
Dr.Kiranmai Babburu



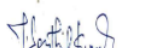
Dr.S.Silas



Mr.A.Muthuvel



Mr.T.Senthil Kumar



(ii) Declaration by the applicant(s) in the convention country:

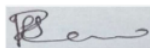
I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a)Date: ----- Dated this 02nd day of December, 2020

(b)Signature(s) of the inventor(s):

(c)Name(s):

Dr.Srinivasa Rao Sankranti



Dr.Shankar B. B



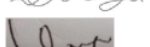
Dr.S.China Venkateswarlu



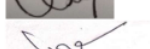
Ms.Ravula Divya



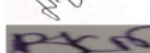
Dr.Lavanya Vadda



Dr.S.Venkatesh Babu



Dr.Kiranmai Babburu



Dr.S.Silas



Mr.A.Muthuvel



Mr.T.Senthil Kumar



(iii) Declaration by the Applicant(s):

- The Complete specification relating to the invention is filed with this application.
- I am/ We are, in the possession of the above mentioned invention.
- There is no lawful ground of objection to the grant of the Patent to me/us.

10. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION:

Sr.No	Document Description	File Name
1	Complete Specifications(Form-2)	CompletespecificationsForm2.pdf
2	Drawings	Drawings.pdf
3	Request For Early Publication(Form-9)	Form9.pdf
4	Statement of Undertaking (Form 3)	Form3.pdf
5	Declaration of Inventorship (Form 5)	Form5.pdf

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this (Final Payment Date): -----

Signature:

Name(s):

Dr.Srinivasa Rao Sankranti

Dr.Shankar B. B

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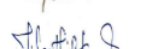
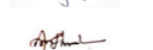
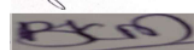
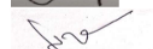
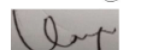
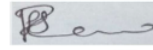
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