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## Patent Search

Invention Title	A NOVEL AUTOMATIC FOCAL ELECTROENCEPHALOGRAM (EEG) SIGNALS DETECTION SYSTEM WITH MULTIREOLUTION ANALYSIS
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### Inventor

Name	Address	Country
Dr.B.Sridhar	Professor, Department of ECE, Lendi Institute of Engineering and Technology, Vizianagaram, Vizianagaram District, Andhra Pradesh, India. Pin Code:535005	India
Dr.Mohan Dholvan	Professor & Head, Department of ECM, Sreenidhi Institute of Science and Technology, Hyderabad, Telangana, India. Pin Code:501301	India
Mrs.C.S.L Vijaya Durga	Assistant Professor, Department of Information Technology, Institute of Aeronautical Engineering (IARE), Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India
Mrs.Ujwala Bhoga	Asst. Professor, Department of CSE, Anurag University, Venkatapur, Ghatkesar, Medchal-Malkajgiri district, Hyderabad, Telangana, India. Pin Code:500088	India
Dr.Mohd Abdul Khader Khan	Professor, Head of the Department of ECE, Shadan Women's College of Engineering & Technology, Hyderabad, Telangana, India. Pin Code: 500004	India
Dr.K.Riyazuddin	Associate Professor, Department of ECE, Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh, India. Pin Code:516126	India
Dr.M.Sridhar	Associate Professor, Department of Computer Science & Engineering, Aurora's Scientific & Technological Institute, Ghatkesar, Hyderabad, Telangana, India. Pin Code:501301	India
Dr.Asmita Manna	Department of Computer Engineering, Pimpri Chinchwad College of Engineering, Pune, Maharashtra, India. Pin Code:411044	India
Dr.M.Vijay Reddy	Assistant Professor, Department of Computer Science and Engineering, Keshav Memorial Engineering College, Kachavani Singaram, Ghatkesar Mandal, Medchal Malkajgiri District, Telangana, India. Pin Code:500088	India
Mr.Sekhar Manepalli	Assistant Professor, Department of ECE, Vignan's Foundation for Science, Technology & Research (Deemed to be University), Vadlamudi, Andhra Pradesh, India. Pin Code:522213	India

### Applicant

Name	Address	Country
Dr.B.Sridhar	Professor, Department of ECE, Lendi Institute of Engineering and Technology, Vizianagaram, Vizianagaram District, Andhra Pradesh, India. Pin Code:535005	India
Dr.Mohan Dholvan	Professor & Head, Department of ECM, Sreenidhi Institute of Science and Technology, Hyderabad, Telangana, India. Pin Code:501301	India
Mrs.C.S.L Vijaya Durga	Assistant Professor, Department of Information Technology, Institute of Aeronautical Engineering (IARE), Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India
Mrs.Ujwala Bhoga	Asst. Professor, Department of CSE, Anurag University, Venkatapur, Ghatkesar, Medchal-Malkajgiri district, Hyderabad, Telangana, India. Pin Code:500088	India
Dr.Mohd Abdul Khader Khan	Professor, Head of the Department of ECE, Shadan Women's College of Engineering & Technology, Hyderabad, Telangana, India. Pin Code: 500004	India
Dr.K.Riyazuddin	Associate Professor, Department of ECE, Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh, India. Pin Code:516126	India
Dr.M.Sridhar	Associate Professor, Department of Computer Science & Engineering, Aurora's Scientific & Technological Institute, Ghatkesar, Hyderabad, Telangana, India. Pin Code:501301	India
Dr.Asmita Manna	Department of Computer Engineering, Pimpri Chinchwad College of Engineering, Pune, Maharashtra, India. Pin Code:411044	India
Dr.M.Vijay Reddy	Assistant Professor, Department of Computer Science and Engineering, Keshav Memorial Engineering College, Kachavani Singaram, Ghatkesar Mandal, Medchal Malkajgiri District, Telangana, India. Pin Code:500088	India
Mr.Sekhar Manepalli	Assistant Professor, Department of ECE, Vignan's Foundation for Science, Technology & Research (Deemed to be University), Vadlamudi, Andhra Pradesh, India. Pin Code:522213	India

#### Abstract:

The electrical activity of the human brain is recorded as electroencephalogram (EEG). The electrical current passing through nerves during the brain activities is recorded the health of the human brain. The EEG signals for epileptogenic focus prior to surgery to remove damaged parts of the human brain is an important first step in the process. The classification of such a EEG signals will be helpful in monitoring the patient's brain activity. The present invention disclosed herein is a novel automatic focal electroencephalogram (EEG) signals detection system with multiresolution analysis comprising of: Acquisition (201); Preprocessing (202); HHT Transform (203); Segmentation (204); Feature Extraction (205); GA Optimization (206); Classification (207); and Performance (208); used to detect the focal EEG signals. The EEG signals are classified into statistical features and the multi-resolution analysis is carried with the Hilbert-Huang Transform (HHT). The present invention disclosed herein uses genetic algorithm to optimize the extracted features before classification. The present invention is carried on the Matlab environment with version R2020a.

#### Complete Specification

Description:FIELD OF INVENTION

The present invention relates to the technical field of Computer Science Engineering.

Particularly, the present invention is related to a novel automatic focal electroencephalogram (EEG) signals detection system with multiresolution analysis of the brain field of signal processing in Computer Science Engineering.

More particularly, the present invention is related to a novel automatic focal electroencephalogram (EEG) signals detection system with multiresolution analysis used to detect the focal EEG signals. The present invention disclosed herein uses genetic algorithm to optimize the extracted features.

#### BACKGROUND & PRIOR ART

Epilepsy is a neurological disorder brought on by irregular brain activity. Electroencephalogram (EEG) signals are commonly used by doctors to assess brain function. Focal epilepsy is a form of epilepsy in which seizures are confined to a localized area of the brain. Focal EEG recordings capture the first changes in brain activity during an episode. The non-focal signals are captured from the part of the brain that plays no role in the onset of the seizure. Note that neither the focal nor the non-focal EEG signals have any evidence of a seizure. Imaging techniques such as magnetic resonance imaging (MRI), positron emission tomography (PET), and single-photon emission computed tomography (SPECT) are used to identify the location of the seizure focus.

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#### Application Details

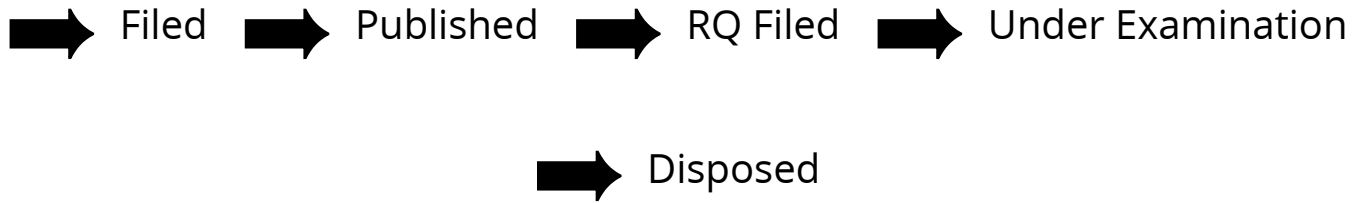
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APPLICANT NAME	1 . Dr.B.Sridhar 2 . Dr.Mohan Dholvan 3 . Mrs.C.S.L Vijaya Durga 4 . Mrs.Ujwala Bhoga 5 . Dr.Mohd Abdul Khader Khan 6 . Dr.K.Riyazuddin 7 . Dr.M.Sridhar 8 . Dr.Asmita Manna 9 . Dr.M.Vijay Reddy 10 . Mr.Sekhar Manepalli
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E-MAIL (As Per Record)	tumula.githam@gmail.com
ADDITIONAL-EMAIL (As Per Record)	tumula.githam@gmail.com
E-MAIL (UPDATED Online)	
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APPLICATION STATUS

## Awaiting Request for Examination

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