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| JournalName: | AsianJournalofResearchinComputerScience |
| ManuscriptNumber: | Ms_AJRCOS_117108 |
| TitleoftheManuscript: | EEGIInnovationsinNeurologicalDisorderDiagnostics:AQuinquennialReview |
| Typeofthe Article | ReviewArticle |

GeneralguidelineforPeerReviewprocess:

This journal’s peer review policy states that **NO** manuscript should be rejected only on the basis of ‘**lack of Novelty**’, provided the manuscript is scientifically robust and technically sound.Toknowthe completeguidelineforPeerReviewprocess,reviewersarerequestedtovisitthis link:

(<https://www.journalajrcos.com/index.php/AJRCOS/editorial-policy>)

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PART1:ReviewComments

[illegible]

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Optional/General comments

No further comments. Please refer to my attachment on Reviewer's General Comments on the Paragraphs.

| Paragraphs | General Comments |
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| Title | The title sounds clear and concise. However, if the author et al. are considering a rephrasing, perhaps something like "Advancements in EEG for Diagnosing Neurological Disorders: A Five-Year Review" could be an alternative. It depends on the tone and style the author et al. are aiming for. |
| Abstract | My comments on the Abstract: 1. Facts: The content seems factually accurate, covering various applications of EEG in diagnosing neurological conditions. 2. Syntax: The syntax is somewhat convoluted and could be simplified for clarity and readability. There are run-on sentences and awkward phrasing that could be improved. 3. Spelling: There are some minor spelling errors, such as "quinquennial" instead of "quinquennially" and inconsistent capitalization of "Traumatic Brain Injury." Overall comment: The paragraph effectively discusses the applications of EEG but could benefit from restructuring for clarity and fixing minor spelling errors. |
| Paragraph 1 | My comments on the first paragraph: 1. Accuracy of Facts: The information provided about EEG is accurate and factual. However, the mention of "brian" instead of "brain" is a spelling error. 2. Syntax: The paragraph is well-structured, with clear topic sentences and supporting details. There are a few awkward phrasings that could be improved for smoother reading. For example, "Usually made of conductive gel or paste, electrodes are small metal discs or sensors that are put to the scalp" could be rephrased for clarity and conciseness. 3. Spelling & Grammar: There is one spelling mistake: "brian" instead of "brain". 4. Overall comment: The paragraph provides accurate information about EEG, but it could benefit from minor improvements in syntax and spelling. |
| Figure 1 | Good to include this figure. |
| Figure 2 | It simplifies the explanation of the complex process. |

Thank you for your recommendation. We have changed the title of the manuscript.

Thank you for your input. We have rewritten the abstract and incorporated all the prescribed suggestions.

Thank you for your recommendation. The spelling error has been corrected and the sentences are rewritten as suggested.

Thank you for your input. The required correction in the paragraph has been made.

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| | Paragraph2 | <p>Mycommentsonthisparagraph:</p> <p>1. Facts Accuracy of Facts: The paragraph accurately identifiesepilepsy, sleep disorders, movement disorders, brain injuries (strokeand TBI), and neurodevelopmental disorders (ADHD and ASD) asconditionswhereEEGisusedfordiagnosisorassessment.Itcorrectlyhig hlights EEG’s role in detecting abnormal electrical activity in thebrain during seizures, identifying sleep phases and disorders,diagnosing movement disorders, assessing brain function afterinjuries, and exploring underlying brain abnormalities inneurodevelopmentaldisorders.</p> <p>2. Syntax: The paragraph is structured logically, with each sentenceproviding a brief explanation of EEG’s role in diagnosing differentconditions. However, the syntax could be improved for smoootherreadabilityandcoherence.Forexample,reprasing“Eventhoug hEEGresults in these conditions are sometimes vague” to “While EEGresults in these conditions may sometimes be inconclusive” wouldenhanceclarityandflow.</p> <p>3. Spelling&Grammar:Theparagraphdemonstratescorrectspelling andgrammar,contributingtoitsclarityandprofessionalism.No</p> | | <p>Thank you for your recommendation. The replation of the phases has been removed.</p> |
| | | <p>spellingerrorsorgrammaticalissuesareapparentinthetext.</p> <p>4.Overallcomment:Theparagrapheffectivelysummarizesthediverseapplications of EEG in diagnosing and monitoring various neurologicalconditions. With minor adjustments for syntax and structure, it wouldenhancereadabilityandcoherence.</p> | | |
| | Figure3 | <p>Thisisanexcellenillustrationthatmustbeincluded.</p> | | |
| | Paragraph3 | <p>Mycommentsonthisparagraph:</p> <p>1. Accuracy of Facts: It accurately describes how EEG is used indiagnosing epilepsy, sleep disorders, movement disorders, andassessingbrainfunctionafterstrokeortraumaticbraininjury.ItalsomentionsthepotentialroleofEE GinresearchingADHDandASD.</p> <p>2. Syntax: The paragraph is well-structured and conveys theinformationinaclearmanner.However,thereareafewinstanceswhere repetition of phrases like “electroencephalography (EEG)”couldbereducedforbetterreadability.</p> <p>3. Spelling&Grammar:Nospellingerrorsspotted.Good!</p> <p>4. Overallcomment:TheparagrapheffectivelycommunicatesfactualinformationaboutEEGanditsapp licationsinvariousmedical contexts.</p> | | |

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| | Paragraph4 | <p>Mycommentonthisparagraph:</p> <p>1. Accuracy of Facts: The paragraph accurately reflects the growingimportanceofEEGindiagnosingneurologicaldisorders,citingrecentstudies and advancements. However, it lacks specific citations forthesestudies,whichcouldenhanceitscredibility.</p> <p>2. Syntax: The paragraph is well-structured and organized, with cleardelineation of different sections/topics. However, there are someminorissueswithgrammarandsyntax:“Thisstudysummarizes”couldbereplacedwith“Thisarticle” or“Thestudy”toavoidconfusionwiththestudymentionedearlier. “Section2discuss”should be “Section 2 discusses” to match subject-verb agreement.“Advancements in movement disorder diagnosis using EEG ispresented”shouldbe“AdvancementsinmovementdisorderdiagnosisusingEEGare presented”forsubject-verbagreement.</p> <p>3. Spelling&Grammar:Therearenospellingerrorsintheparagraph.</p> <p>4. Overall comment: The paragraph effectively communicates theimportance and scope of EEG in diagnosing neurological disorders,butitcouldbenefitfromspecificcitationsandminoradjustmentsto improveclarityandgrammar.</p> | | Thank you for your suggestion. The long paragraph has been broken down to small digestible paragraphs. |
| | Paragraph5onEpilepsyDiagnosiss <i>Advicetotheauthoretal.:Breakingdowna large amount of information intoreadable paragraphs helps improvecomprehension and readability for thereader. It allows for easier digestion ofcomplex concepts, helps organize ideaslogically, and enhances the overall flow ofthe text. By presenting information inmanageable chunks, it reduces cognitiveloadandmakes iteasier for thereviewers, editors and readers to followalongand retainkeypoints</i> | <p>Mycommentsonthisparagraph:</p> <p>1. Accuracy of Facts: It seems like the author et al. are providing acomprehensive overview of various frameworks and techniques forepileptic seizure detection from EEG signals. These methods rangefrom deep learning approaches to machine learning models, eachoffering promising results in terms of accuracy and efficiency. Theseadvancementsholdgreatpotentialforimprovingthequalityoflifeforpeople with epilepsy and streamlining the diagnostic process formedicalprofessionals.</p> <p>2. Syntax:Foreaseofreading,thisparagraphisfartoolong.Theauthor et al. might want to consider breaking it down into morereadableor“digestible”paragraphs.</p> <p>3. Spelling&Grammar:Nomisspellingspotted.</p> <p>4. Overall comment: This long, dense paragraph can be detrimentalfor several reasons. Firstly, it can make the content difficult to readand understand, leading to reader fatigue and decreasedcomprehension.Secondly,itmaylackclarityandcoherence,makingitharderforthereadertofollowthelogicalflowofideas.Additionally, longparagraphscanmakeitchallengingforreviewersandeditorstoidentify key points and provide feedback effectively. It is strongly recommended that breaking up paragraphs into shorter, more digestible chunks can enhance readability and facilitate better communication of the research findings.</p> | | Thank you for your suggestion. The long paragraph has been broken down to small digestible paragraphs. |

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| | <p>Paragraph6onSleepDisordersDiagnosis</p> <p><i>Advice to the author: Breaking down a large amount of information into readable paragraphs helps improve comprehension and readability for the reader. It allows for easier digestion of complex concepts, helps organize ideas logically, and enhances the overall flow of the text. By presenting information in manageable chunks, it reduces cognitive load and makes it easier for the reviewers, editors and readers to follow along and retain key points.</i></p> | <p>1. Facts: 2. Syntax: This is another long 'dense' paragraph that is best broken down for ease of reading. It is the responsibility of the author et al. to decide among themselves how this paragraph is to be broken down in order to ensure clarity and coherence of the content (avoiding 'murkiness' of the content that the author's et al. attempt to present the facts relevant to the paragraph) presented in the paragraph. Kindly break up paragraphs into shorter, more digestible chunks can enhance readability and facilitate better communication of the research findings. 3. Spelling: 4. Overall comment:</p> | | <p>Thank you for your input. The required changes have been made in the manuscript as suggested.</p> |

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| | <p>Paragraph 7 on Movement Disorders Diagnosis</p> <p><i>Advice to the author:</i> Breaking down a large amount of information into readable paragraphs helps improve comprehension and readability for the reader. It allows for easier digestion of complex concepts, helps organize ideas logically, and enhances the overall flow of the text. By presenting information in manageable chunks, it reduces cognitive load and makes it easier for the reviewers, editors and readers to follow along and retain key points.</p> | <p>My comments on this paragraph:</p> <ol style="list-style-type: none"> 1. Accuracy of Facts: The paragraph discusses several studies and their findings related to EEG-based diagnosis of movement disorders, such as Parkinson's disease, Major Depressive Disorder, and Rapid Eye Movement Behavior Disorder. The studies mentioned appear to be accurately represented and reflect recent advancements in the field. 2. Syntax: The paragraph is well-organized, presenting each study and its findings in a clear and structured manner. However, some sentences are quite lengthy and could be broken down for better readability and clarity. For instance, the sentence beginning with "For the purpose of diagnosing neurological disorders..." could be split into two sentences to enhance readability. 3. Spelling & Grammar: Overall, the paragraph demonstrates good spelling and grammar. However, there are a few instances where minor adjustments could improve clarity. For example, in the sentence "Their work offers a promising new technique for the diagnosis of depression by demonstrating the ability of EEG-based characteristics to distinguish MDD patients from healthy controls with consistency," replacing "by demonstrating" with "by demonstrating how" could clarify the role of EEG-based characteristics in distinguishing MDD patients from healthy controls. 4. Coherence: The paragraph maintains coherence by logically organizing information about various EEG-based diagnostic approaches for movement disorders. Each study is introduced with its methodology and outcomes, providing a comprehensive understanding of recent developments in the field. 5. Overall comment: The paragraph effectively communicates the significance of EEG-based diagnostic approaches for movement disorders and highlights recent research findings in the field. With some minor adjustments for readability and coherence, it provides a comprehensive overview of the topic. | <p>Thank you for your input. The required changes have been made in the manuscript as suggested.</p> |
| | <p>Paragraph 8 on Cognitive Assessment</p> <p><i>Advice to the author:</i> Breaking down a large amount of information into readable paragraphs helps improve comprehension and readability for the reader. It allows for</p> | <p>My comments on this paragraph:</p> <ol style="list-style-type: none"> 1. Accuracy of Facts: The paragraph presents a range of research studies and their findings in the field of EEG-based cognitive evaluation. The facts seem accurate and reflect current trends and developments in the field up to the knowledge cutoff date. 2. Syntax: The paragraph is well-structured, with clear delineation of different studies and their methodologies and outcomes. However, some sentences are quite lengthy and could be broken down for better readability. For instance, the sentence starting with "With its non-invasive method..." could be split into two sentences to improve clarity and flow. 3. Spelling & Grammar: Overall, the spelling and grammar are correct. However, there are a few instances where minor adjustments could enhance readability. For example, in the sentence "Furthermore, exact temporal resolution is provided by event-related potentials (ERPs), which are obtained from EEG data and may be utilized to analyze cognitive processes with millisecond accuracy," "Furthermore" could be replaced with a simpler transition like "Moreover" for smoother flow. 4. Coherence: The paragraph maintains coherence by logically organizing information about | |

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| | <p>easier digestion of complex concepts, helps organize ideas logically, and enhances the overall flow of the text. By presenting information in manageable chunks, it reduces cognitive load and makes it easier for the reviewers, editors and readers to follow along and retain key points.</p> | <p>various studies and their contributions to EEG-based cognitive evaluation. Each study is introduced with its methodology and findings, providing a clear understanding of the advancements in the field.</p> <p>. Overall comment: The paragraph effectively conveys the significance of EEG-based cognitive evaluation and highlights recent research findings in the field. With some minor adjustments for readability and coherence, it provides a comprehensive overview of the topic.</p> | | <p>Thank you for your input. The required changes have been made in the manuscript as suggested.</p> |
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| | <p>Paragraph8onCognitiveAssessment</p> <p><i>Advicetotheauthor:Breakingdowna large amount of information into readable paragraphs helps improve comprehension and readability for the reader. It allows for easier digestion of complex concepts, helps organize ideas logically, and enhances the overall flow of the text. By presenting information in manageable chunks, it reduces cognitive load and makes it easier for the reviewers, editors and readers to follow along and retain key points.</i></p> | <p>My comments on this paragraph:</p> <ol style="list-style-type: none"> 1. Accuracy of Facts: The paragraph presents a wealth of information about various studies and their findings related to EEG-based cognitive evaluation. The studies mentioned appear to be accurately represented and reflect current research trends in the field. Each study is introduced with its methodology and outcomes, providing a comprehensive overview. 2. Syntax: The paragraph is well-structured, with clear delineation of different studies and their methodologies and outcomes. However, some sentences are lengthy and could be broken down for better readability. For example, the sentence starting with "Researchers can find certain neural signatures..." could be split into two sentences to improve clarity and flow. 3. Spelling & Grammar: Overall, the paragraph demonstrates good spelling and grammar. However, there are a few instances where minor adjustments could enhance readability. For instance, in the sentence "Their work shows potential accuracy in detecting MCI by using gamma band power analysis and sensory-motor paradigm to determine cognitive deterioration," replacing "potential accuracy" with "potential for accuracy" could clarify the intended meaning. 4. Coherence: The paragraph maintains coherence by logically organizing information about various studies and their contributions to EEG-based cognitive evaluation. Each study is introduced with its methodology and findings, providing a clear understanding of recent advancements in the field. 5. Overall comment: The paragraph effectively conveys the significance of EEG-based cognitive evaluation and highlights recent research findings in the field. With some minor adjustments for readability and coherence, it provides a comprehensive overview of the topic. | |
| | <p>Paragraph9onBrainInjuryAssessment</p> <p><i>Advicetotheauthor:Breakingdowna large amount of information into readable paragraphs helps improve comprehension and readability for the reader. It allows for easier digestion of complex concepts, helps organize ideas</i></p> | <p>My comments on this paragraph:</p> <ol style="list-style-type: none"> 1. Accuracy of Facts: The paragraph discusses several studies and their findings related to EEG's role in brain injury assessment. The studies mentioned appear to be accurately represented and reflect current research trends in the field. Each study is introduced with its methodology and outcomes, providing a detailed understanding of recent advancements. 2. Syntax: The paragraph is well-structured, with clear delineation of different studies and their methodologies and outcomes. However, some sentences are quite lengthy and could be broken down for better readability. For example, the sentence starting with "Using supervised machine learning and normative modeling..." could be split into two sentences to improve clarity and flow. 3. Spelling & Grammar: Overall, the paragraph demonstrates good spelling and grammar. However, there are a few instances where minor adjustments could enhance readability. For example, in the sentence "Their method demonstrated its ability to enhance clinical decision-making by accurately identifying mTBI patients from controls with an accuracy of 79%," replacing "its ability to enhance" with "the ability to enhance" could improve the sentence's clarity. 4. Coherence: The paragraph maintains coherence by logically organizing information about various studies and their contributions to EEG-based brain injury assessment. Each study is introduced with its methodology and findings, providing a clear understanding of recent advancements in the field. 5. Overall comment: The paragraph effectively communicates the significance of EEG in brain injury assessment and highlights recent research findings in the field. With some minor | <p>Thank you for your suggestion. All the suggested change has been incorporated in the manuscript.</p> |

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| | | logically, and enhances the overall flow of the text. By presenting information in manageable chunks, it reduces cognitive load and makes it easier for the reviewers, editors and readers to follow along and retain key points. | adjustments for readability and coherence, it provides a comprehensive overview of the topic. | Thank you for your suggestion. All the suggested change has been incorporated in the manuscript. |
| | Paragraph 10 on Discussion | My comments on this paragraph: 1. Accuracy of Facts: The paragraph accurately describes the diversity of methodologies, techniques, and algorithms explored in automatic seizure detection studies. It correctly identifies deep learning models like CNNs and RNNs, as well as traditional machine learning classifiers and ensemble models, as common approaches. Feature extraction methods such as DWT, SpPCA, and RP are appropriately mentioned, reflecting the variety of techniques used in seizure detection research. The mention of reported metrics like sensitivity, specificity, false detection rates, and AUC adds depth to the discussion, highlighting the robustness of the proposed methods. 2. Syntax: The paragraph is well-structured, providing a clear overview of the comparative analysis. However, some sentences could be simplified for clarity. For example, the phrase "From deep learning models like Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs) to traditional machine learning classifiers and ensemble models, various approaches are explored" could be rephrased as "Various approaches, including deep learning models like CNNs and RNNs, as well as traditional machine learning classifiers and ensemble models, are explored." 3. Spelling & Grammar: Overall, the paragraph demonstrates good spelling and grammar. However, there are a few instances where minor adjustments could enhance readability. For example, the phrase "Feature extraction methods range from basic signal processing techniques like Discrete Wavelet Transform (DWT) to more advanced methods such as Spectral Principal Component Analysis (SpPCA) and Recurrence Plots (RP)" could benefit from parallel structure, such as "from basic signal processing techniques like DWT to more advanced methods like SpPCA and RP." 4. Coherence: The paragraph maintains coherence by logically organizing information about various methodologies, techniques, and results in automatic seizure detection studies. Each aspect is introduced and discussed in a structured manner, providing a comprehensive overview of the comparative analysis. 5. Overall comment: The paragraph effectively communicates the complexity and diversity of approaches in automatic seizure detection studies. With some minor adjustments for readability and syntax, it provides a thorough understanding of the topic. | | |
| | Table 1 | Good for inclusion in this paper. | | |

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| | Paragraph11 | <p>Mycommentonthisparagraph:</p> <p>1. Accuracy of Facts: The paragraph accurately describes the diverselandscape of methodologies, feature extraction techniques, andclassification algorithms employed in sleep disorder studies. ItcorrectlyidentifiesdeeplearningmodelslikeCNNsandRNNs,aswellas traditional machine learning algorithms such as SVM and RandomForest. The mention of various feature extraction methods, includingtime domain features, frequency domain features, and waveletdecomposition, reflects the breadth of techniques used in sleepdisorder analysis. The assertion regarding the prominence of deeplearning models and their superior performance is supported byevidencefromtheliterature.</p> <p>2. Syntax:Theparagraphiswell-structured,providingaclearoverviewof the comparative analysis. However, some sentences could besimplified for clarity and flow. For example, the phrase “Studiesemploy a range of approaches, from deep learning models likeconvolutional neural networks (CNNs) and recurrent neural networks(RNNs) to traditional machine learning algorithms such as SupportVector Machines (SVM) and Random Forest” could be rephrased forsmoother readability, such as “Studies employ a range of approaches,including deep learning models like CNNs and RNNs, as well astraditionalmachinelearningalgorithmslikeSVMandRandomForest.”</p> <p>3. Spelling & Grammar: Overall, the paragraph demonstrates goodspelling and grammar. However, there are a few instances whereminor adjustments could enhance readability. For example, thephrase “Notably, deep learning models emerge as prominent tools,showcasing their prowess in automatically learning intricate patternsfromrawdata,leadingtostate-of-the-artperformanceacrossvarioustasks” could be refined for clarity, such as “Deep learning modelsemerge as prominent tools, showcasing their ability to automaticallylearn intricate patterns from raw data and achieve state-of-the-artperformanceacrossvarioustasks.”</p> <p>4. Coherence: The paragraph maintains coherence by logicallyorganizing information about methodologies, techniques, and resultsinsleepdisorderstudies.Eachaspectisintroducedanddiscussedinastuctured manner, providing a comprehensive overview of thecomparativeanalysis.</p> <p>5. Overall comment: The paragraph effectively communicates thecomplexity and evolution of methodologies in sleep disorder studies.Withsomesminoradjustmentsforreadabilityandsyntax,itprovidesathoroughunderstandingoft hetopic.</p> | | Thank you for your suggestion. All the suggested change has been incorporated in the manuscript. |
| | Table2 | Goodforinclusioninthispaper. | | |
| | Paragraph12 | <p>Mycommentsonthisparagraph:</p> <p>1. Accuracy of Facts: The paragraph accurately portrays the diversityof methodologies, feature extraction techniques, and classificationalgorithms employed in movement disorder diagnosis studies. ItcorrectlyidentifiesvariousdeeplearningarchitectureslikeCNNsandRNNs, as well as machine learning techniques such as SVMs, LR, andk-NN.Thementionofadvancedfeatureextractionmethodslike wavelet transforms and synchronization likelihood (SL) featuresreflectsthecomplexityofsignalprocessinginvolvedinmovement disorder diagnosis. The assertion regarding high accuracy rates and the potential of machine learning and deep learning approaches is supported by evidence from the literature.</p> <p>2. Syntax: The paragraph is well-structured, providing a clear overview of the comparative</p> | | |

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| | | <p>analysis. However, some sentences could be improved for clarity and coherence. For instance, the phrase “Researchers employ various deep learning architectures such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and their combinations to process EEG signals, ECG signals, and raw MRIs for diagnosis” could be rephrased for smoother readability, such as “Researchers utilize various deep learning architectures, including CNNs, RNNs, and their combinations, to process EEG signals, ECG signals, and raw MRIs for diagnosis.”</p> <p>3. Spelling & Grammar: Overall, the paragraph demonstrates good spelling and grammar. However, there are a few instances where minor adjustments could enhance readability. For example, the phrase “Machine learning techniques like Support Vector Machines (SVMs), Logistic Regression (LR), and k-Nearest Neighbors (k NN)are also utilized” could be corrected to “Machine learning techniques like Support Vector Machines (SVMs), Logistic Regression (LR), and k- Nearest Neighbors (k-NN) are also utilized” to maintain consistency in the formatting of abbreviations.</p> <p>4. Coherence: The paragraph maintains coherence by logically organizing information about methodologies, techniques, and results in movement disorder diagnosis studies. Each aspect is introduced and discussed in a structured manner, providing a comprehensive overview of the comparative analysis.</p> <p>5. Overall comment: The paragraph effectively communicates the complexity and potential of machine learning and deep learning approaches in movement disorder diagnosis. With some minor adjustments for readability and syntax, it provides a thorough understanding of the topic.</p> | manuscript. |
| | Table3 | Goodforinclusioninthispaper. | |
| | Paragraph13 | <p>Mycommentsonthisparagraph:</p> <p>1. Accuracy of Facts: The paragraph accurately portrays the diversityof methodologies, feature extraction techniques, classificationalgorithms, and results in cognitive assessment using EEG data. Ithighlights the dominance of deep learning models and the significantrole of machine learning techniques, reflecting the current trends inthefield.Additionally,itcorrectlymentionsthevariabilityinreportedaccuracy rates, attributing them to factors like data quality andalgorithmchoice.</p> <p>2. Syntax:Theparagraphiswell-structuredandeffectivelyconveys thekey points of the comparative analysis. The transitions between discussing methodologies, results, and implications are smooth,contributing to the coherence of the paragraph. However, there is anopportunity to improve the flow by breaking down the sentence“Despite this variability, the studies collectively underscore thepotential of EEG-based cognitive assessment in detecting cognitivedecline, assessing cognitive workload, and differentiating cognitivestates, offering promising prospects for clinical diagnosis and human-machineinteractionenhancement”intosmaller,moredigestiblepartsforenhancedclarityandreadability.</p> <p>3. Spelling&Grammar:Theparagraphdemonstratescorrectspellingand grammar, maintaining clarity and readability throughout.However,oneminorimprovementcouldbemadetoenhance readabilitybyreplacingthephrase“offeringpromisingprospects” with “which offer promising prospects”.</p> <p>4. Coherence: The paragraph maintains coherence by effectively summarizing the key findings and implications of the comparative analysis. It highlights the potential of EEG-based cognitive assessment in various applications, including detecting cognitive decline and enhancing human-machine interaction, thereby providing a comprehensive overview of the field’s advancements.</p> <p>5. Overall comment: The paragraph effectively critiques the comparative analysis of studies on cognitive assessment using EEG data, offering accurate information, clear structure, correct grammar, and coherent presentation of key findings. With minor adjustments for readability, it provides a thorough understanding of the topic.</p> | |
| | Table4 | Goodforinclusioninthispaper. | |
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Thank you for your suggestion. All the suggested change has been incorporated in the manuscript.

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| | Paragraph14 | <p>Mycommentsonthisparagraph:</p> <p>1. Accuracy of Facts: The paragraph accurately summarizes the keyaspects of the comparative analysis, including the diversemethodologiesemployedacrossstudies,suchasEEG-baseddetectionof epileptiform activity and MEG-based identification of mildtraumaticbraininjury.Itcorrectlyidentifiesvariousfeatureextractiontechniques and classification algorithms, reflecting the broadspectrum of analytical approaches used in the field. The mention ofpromising accuracies, with some studies exceeding 90%, aligns withthefindings reportedintheliterature.</p> <p>2. Syntax: The paragraph is well-structured, with clear transitionsbetween different aspects of the comparative analysis. However, itcould benefit from breaking down some lengthy sentences intosmaller, more digestible segments to enhance readability and clarity.For example, the sentence “Moreover, the comparative analysishighlights the ongoing advancements in machine learning and deeplearning techniques, further enhancing the accuracy and reliability ofbraininjuryassessmentmethodsbasedonneuroimagingdata”couldbesplitintotwosentencesforimprovedflow.</p> <p>3. Spelling & Grammar: The paragraph demonstrates correct spellingand grammar throughout, contributing to its clarity andprofessionalism.Nospellingerrorsorgrammaticalissuesareapparentinthetext.</p> <p>4. Coherence: The paragraph maintains coherence by effectivelysummarizing the main findings and implications of the comparativeanalysis. It highlights the potential of EEG and MEG data as valuabletools in clinical settings for diagnosing brain injuries and monitoringpatient outcomes. Additionally, it emphasizes the role of ongoingadvancements in machine learning and deep learning techniques inenhancing the accuracy and reliability of brain injury assessmentmethods,providingacomprehensiveoverviewofthefield’sprogress.</p> <p>5. Overall comment: The paragraph offers a well-rounded critique ofthe comparative analysis, providing accurate information, clearstructure,correctgrammar,andcoherentpresentationofkeyfindings.Withminoradjustmentsforsyntaxandstructure,itwouldfurther enhancereadabilityandclarity.</p> | Thank you for your suggestion. All the suggested change has been incorporated in the manuscript. |
| | Table5 | Goodforinclusioninthispaper. | |
| | Paragraph15on Conclusion | <p>Mycommentsonthisparagraph:</p> <p>1.AccuracyofFacts:Theparagraphaccuratelyportraysthesignificantadvancements achieved in the application of deep learning andmachine learning approaches to neurological diagnoses. It correctlyidentifies the adaptability and efficacy of computational approachesin identifying patterns from complex neuroimaging data acrossvariousdomainssuchasseizuredetection,cognitiveevaluation,and</p> | |

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| | | <p>brain damage prediction. The mention of the need for integratingmultimodalneuroimagingdataandstandardizingapproachesalignswithcurrent challengesandopportunitiesinthefield.</p> <p>2. Syntax: The paragraph is well-structured, with clear transitionsbetween different aspects of the comparative analyses. It effectivelyconveys the main points, discussing the adaptability and efficacy ofcomputational approaches, the potential of automated diagnosticsystems, and the challenges that need to be addressed for fullrealization of this potential. However, it could benefit from somerefinementinsentencestructuretoimprovereadability.Forexample,thephrase“Thise researchdemonstrate”couldbecorrectedto“Thise researchdemonstrates.”</p> <p>3. Spelling&Grammar:Theparagraphdemonstratescorrectspellingand grammar, contributing to its clarity and professionalism. Nospellingerrorsorgrammaticalissuesareapparentinthetext.</p> <p>4. Coherence: The paragraph maintains coherence by effectivelysummarizing the main findings and implications of the comparativeanalyses. It highlights the transformative potential of automateddiagnostic systems in clinical practice while acknowledging thechallenges that need to be addressed for their full realization. Thediscussion of integrating multimodal neuroimaging data andstandardizingapproachesaddsdepthtothecritique,demonstratingan understanding of the broader context in which theseadvancementsareoccurring.</p> <p>5. Overall comment: The paragraph offers a well-rounded critique ofthe comparative analyses, providing accurate information, clearstructure,correctgrammar,andcoherentpresentationofkeyfindings.Withminoradjustmentsforsyntaxandstructure,itwouldfurther enhancereadabilityandclarity.</p> | | <p>Thank you for your suggestion. All the suggested change has been incorporated in the manuscript.</p> |
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| | <div>Paragraph16onf uturedirectives</div> <div>Mycommentsonthisparagraph: 1. AccuracyofFacts:Theparagraphaccuratelyportraysthepromisingfuture prospects for neuroimaging-based diagnostics research. Itcorrectly identifies the development of novel approaches for earlydetection and personalized treatment planning, the improvement ofcurrent diagnostic tools, and the exploration of synergies between different modalities to deepen the understanding of neurologicaldisorders. The mention of advancements in machine learning anddeep learning techniques driving these developments aligns withtrendsinthefield. 2. Syntax: The paragraph is well-structured, with clear transitionsbetween different aspects of futureprospects forneuroimaging-baseddiagnostics research. However, some sentences could be refined forimproved clarity and flow. For instance, the phrase “making surealgorithmic decision-making is transparent and equitable” could berephrased for better readability, such as “ensuring transparency andequityinalgorithmic decision-making.” 3. Spelling&Grammar:Theparagraphdemonstratescorrectspellingand grammar, contributing to its clarity and professionalism. Nospellingerrorsorgrammaticalissuesareapparentinthetext. 4. Coherence: The paragraph maintains coherence by effectivelysummarizing the future directions and considerations inneuroimaging-based diagnostics research. It discusses the potentialfor advancements in technology, ethical considerations regardingalgorithmic decision-making, and the importance of multidisciplinarypartnershipsinbridgingthegapbetweencomputationalneuroscienceandclinicalpracti ce.Theparagraphconcludeswithavisionofanew ageofprecisionmedicineenabledbycomputationaltechniquesand neuroimaging data, offering personalized patient care based on insights into the human brain. 5. Overall comment: The paragraph provides a thoughtful critique of future prospects for neuroimaging-based diagnostics research, offering accurate information, clear structure, correct grammar, and coherent presentation of key ideas. With minor adjustments for syntax and structure, it would further enhance readability and clarity.</div> | |
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PART 2:

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| | Reviewer’s comment | Author’s comment(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
| Are there ethical issues in this manuscript? | (If yes, Kindly please write down the ethical issues here in details) | Thank you for your Input. |