IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 5, March 2025

Mood Mentor - Smart Ai Driven Adaptive Study Platform

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Abstract: *Artificial Intelligence (AI) is reshaping various sectors within our society, including the field of education. In this regard, emotions are crucial to the teaching-learning process as they impact academic achievement, motivation, memory retention, and the overall well-being of students. Therefore, the incorporation of AI into emotional assessment in educational settings presents numerous benefits that can change our approach to understanding and supporting the socio-emotional growth of students. Nevertheless, there is still a gap in having a thorough framework that organizes the achievements, challenges, and possibilities within this domain. The utilization of artificial intelligence (AI) in education is increasing and has garnered significant attention in recent years. The 2018 Horizon Report (Educause, 2018) highlights AI and adaptive learning technologies as key advancements in educational technology, with an expected adoption timeline of 2 to 3 years. AI algorithms and educational robots have become essential components of learning management and training systems, offering assistance for a diverse range of teaching and learning activities.*

Keywords: AI Adaptive learning systems, AI-Enabled learning systems

I. INTRODUCTION

In an ever-evolving educational landscape, the need for personalized and flexible learning solutions has never been greater. Enter *Mood Mentor*, an innovative AI-driven adaptive study platform designed to transform the way students learn and engage with their studies. Powered by advanced artificial intelligence, *Mood Mentor* tailors educational content and strategies to suit individual learners' needs, learning styles, and emotional states. By integrating real-time mood analysis and adaptive learning algorithms, it offers a holistic approach to education, ensuring that every student can thrive in their unique way.

At its core, *Mood Mentor* is built on the principle that learning is most effective when it resonates with the learner's emotional and cognitive readiness. The platform leverages AI to assess a student's mood and engagement levels, dynamically adjusting study materials and techniques to enhance focus, retention, and motivation. Whether a learner feels stressed, energetic, or distracted, *Mood Mentor* adapts in real-time, providing a supportive and empowering study environment.

With its seamless blend of personalization, advanced analytics, and emotional intelligence, *Mood Mentor* represents the next generation of educational tools. This platform not only enhances academic performance but also nurtures emotional well-being, paving the way for a more balanced and fulfilling learning journey.

II. LITERATURE SURVEY

Integrating AI to assess emotions in learning environments: a systematic literature review By Angel Olider Rojas Vistorte, 1, 2 Angel Deroncele-Acosta, 2024 Jun 19.

This systematic literature review seeks to investigate the applications of artificial intelligence (AI) in assessing emotions in educational environments. We offer an extensive summary of the existing research, emphasizing progress, obstacles, and prospects in the area of AI-based emotional evaluation in educational contexts.

Student and educator experiences of maternal-child simulation-based learning: a systematic review of qualitative evidence protocol By Karen MacKinnon 1, Lenora

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Marcellus, Julie Rivers, 2015 Aug 17 .
This systematic literature review utilizes the Academic Databases Algorithm. It functions as thematic synthesis, meta-ethnography, or narrative synthesis within the database. For this review, we will adopt the definition of "simulation-based learning experience" as defined by the International Nursing Association for Clinical Simulation and Learning (INACSL): We will include any instance of simulation in an educational context involving preregistration or pre-licensure or undergraduate nursing or health professional students, specifically focusing on maternal-child nursing.
AI in the analysis of emotions of nursing students undergoing clinical simulation By Casandra de Leon, Leandro Mano, **2021 SEP 28.**
This Systematic Literature employs the Bardin Technique Algorithm. We incorporated AI Techniques such as facial recognition, sentiment analysis, and data from physiological sensors into this Literature. We established two categories: "It was quite challenging and very stressful" and "A highly valuable experience." In the realm of Artificial Intelligence, the emotional distribution across facial expressions, voice, and speech demonstrated a predominance of negative valence, a medium-high level of passivity, a moderate ability to manage the situation, and a medium-high degree of obstruction in task completion
Influence of Stress and Emotions in the Learning Process: The Example of COVID-19 on University Students: A Narrative Review By Alfredo Córdova, David C Noriega , 2023 JUN 21 .
Based on the body of existing literature, we used narrative synthesis, meta-ethnography, or thematic synthesis. Stress and emotional instability significantly impede learning, impacting both educators and learners. This review's primary goal is to examine how stress and emotions, which are components of stress, affect the educational setting..
An Artificial Intelligence Powered Emotion Recognition System By Faraz Hasan , Lakshay Arora,2024 JUL 18.
This systematic literature review employs the Bardin Technique Algorithm. We utilized Naïve Bayes, Support Vector Machines (SVM), and Recurrent Neural Networks from this literature. In this study, we gain insight into the emotional responses of computers during our interactions with them. We explore the essence of reality by merging the marvels of technology with human emotions.

III. METHODOLOGY

The capabilities of artificial intelligence (AI) have advanced astronomically in the past year. AI is beginning to have a significant impact on almost every facet of contemporary technology, from autonomous cars to medical diagnosis. These days, education is using this technology to help students study more effectively and perform better academically.
The possibilities are limitless for university students. AI applications can evaluate students' prior performance using complex algorithms to generate study schedules that are optimized for each student's strengths and weaknesses. Additionally, spaced repetition and flashcard-based learning are used to help students retain information more effectively than ever before. Students enrolled in the International Baccalaureate program are even permitted to use ChatGPT, a well-known generative AI app, as a writing tool in their essays!

Fig.- How Applications use AI

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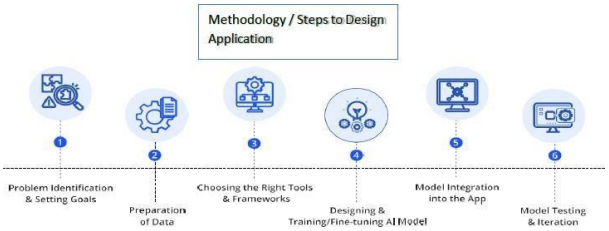
This comprehensive guide will demonstrate how to create and utilize an AI application. Regardless of whether you are a researcher, entrepreneur, or simply interested in AI technology, these steps will assist you in crafting an AI that can revolutionize your field.



Recognize the issue and establish the objective. Prior to developing an AI application, it's essential to pinpoint the challenge you aim to address. Consider the specific features and workflows you plan to implement in the app. What outcomes do you anticipate? What advantages will it offer? After clarifying the issue and concept, you can begin formulating the product requirements. Through the analysis of these requirements, developers will grasp the intent behind the product's creation and identify the technologies and tools necessary for its development.

Data Preparation The collection and preparation of data form the core of developing AI applications. The effectiveness of even the most advanced AI models relies heavily on the quality of the training data. To prevent the high expenses linked to poor data, prioritizing data quality instead of quantity is crucial. According to a Gartner study, organizations lose an estimated $15 million annually due to poor data quality.

Selecting Appropriate Tools and Frameworks The effectiveness of your AI application is influenced by the selection of suitable tools and frameworks for constructing and training your models. This selection should align with your specific business requirements and integrate effortlessly with your current infrastructure. Opting for the right tools not only accelerates development but also enhances the performance of your AI models.

Develop and adjust the AI model. The initial phase involves outlining the model's structure according to the issue it aims to address. Here's how to move forward: Select a training strategy, pick the appropriate model architecture, get ready for the training process, train the AI model, and then assess and incorporate the model.

Incorporating the model into the application is a vital aspect of the development process, serving as a key element in the success of an AI application. This essential stage will decide if your AI functionalities genuinely enhance the user experience, either meeting or failing to meet expectations.

Evaluate and refine your model. Creating an AI application isn't a singular event; it signifies the start of a journey toward ongoing enhancement and refinement. It's crucial to view every AI model as a long-term project that demands constant testing and iteration to foster growth and advancement

Deploy and monitor Once you have successfully designed, modeled, and tested your application, it is time to deploy it, use it, and monitor its behavior.

IV. DISCUSSION

Mood Mentor is an AI-driven adaptive study platform that transforms how students learn by tailoring educational experiences to their individual needs and emotional states. By leveraging artificial intelligence and emotion-recognition technology, the platform identifies a learner's mood, stress levels, and cognitive engagement through real-time data like facial expressions, voice tone, or self-reported inputs. Based on this analysis, Mood Mentor adapts content delivery, pace, and difficulty, creating a personalized learning experience that fosters better comprehension and retention. Whether a student feels anxious before an exam or bored with repetitive material, the system adjusts dynamically, offering motivational tips, engaging content, or calming techniques to help them stay on track.

The platform stands out for its holistic approach, incorporating mental well-being into the educational process. By integrating techniques like mindfulness prompts, gamified learning modules, and AI-driven study suggestions, Mood Mentor not only enhances academic performance but also nurtures emotional resilience. Its ability to provide actionable feedback and learning strategies ensures students are both prepared for exams and equipped with long-term skills for

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self-regulation and stress management. With Mood Mentor, education evolves from a one-size-fits-all model into an empathetic and responsive ecosystem, paving the way for a future where technology meets human-centered learning.

V. CONCLUSION

So hereby taking all the references and applying the necessary Methodologies, We have started to design a SMART AI-Driven Adaptive Study Platform named 'Mood Mentor '. The Mood Mentor application enhances the user experience of online learning. This Application will adapt According to the user's needs and give them proper guidance. It will make a proper schedule for the particular students according to their ease. We will also make some significant changes if needed further for the betterment of this application.

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