

# **MAJOR PROJECT**

## **LITERATURE SURVEY**

### **AI-Driven Student Engagement Platform**

The use of Artificial Intelligence (AI) has brought in a new era of personalised and captivating learning experiences in the constantly changing field of education. The principal aim of this project is to leverage artificial intelligence and machine learning to provide a flexible and dynamic platform that transforms the way learners interact with instructional materials. By providing a customised and engaging learning experience for every student, this AI-driven platform seeks to close the gap between traditional classroom settings and the different learning needs of students. Students' educational experiences can be enhanced through the application of artificial intelligence (AI) and machine learning through a technological solution known as an AI-driven student engagement platform. This platform offers tailored learning experiences by assessing each student's individual strengths, weaknesses, and preferred methods of learning. It delivers real-time assessments and feedback and , recommends personalised learning materials, and use predictive analytics to support students' academic success. Increasing learning effectiveness, efficiency, and flexibility to each learner's unique demands is the ultimate objective.

#### **Scope of the project:**

**Personalised learning:** The platform analyses each student's learning preferences, aptitudes, and shortcomings using AI algorithms. Using this data, personalised learning paths that are catered to individual needs are created.

**Adaptive Content:** To meet each student's individual learning objectives, AI makes recommendations for and presents the assignments, resources, and learning materials that are most pertinent to them.

**Real-time Assessments and Feedback:** The platform offers continuous evaluations of students' development and timely feedback. Students can use this to monitor their progress and change their learning tactics as necessary.

**Gamification and Interactivity:** Gamification components are frequently incorporated to make learning more interesting. Students are motivated and feel accomplished thanks to interactive simulations, tests, and challenges.

**Tools for Communication:** The platform makes it easier for parents, instructors, and students to communicate. This encourages a collaborative learning atmosphere and makes sure that everyone is aware of the development of the kids.

**Data insights:** The platform produces useful data insights that assist educators and institutions in making data-informed decisions regarding the development of curricula, the use of instructional techniques, and the distribution of available resources.

## **Search Strategy:**

### **Keyword Selection:**

Begin by selecting relevant keywords and phrases related to AI-driven student engagement platforms. These may include:

- AI-driven education
- AI in student engagement
- Personalized learning platforms

### **Database Selection:**

Utilize academic databases, online libraries, and search engines to conduct your research. Some popular options include:

- Google Scholar
- PubMed (for educational research related to health and medicine)
- IEEE Xplore (for technical and engineering aspects)

### **Review Academic Journals and Conference Proceedings:**

- Explore academic journals and conference proceedings in the field of education, artificial intelligence, and educational technology. These sources often contain the latest research and developments.

### **Stay Current:**

- The field of AI and education is rapidly evolving. Ensure that you stay up-to-date by periodically revisiting your search and exploring the latest developments and publications.

### **Consult Experts and Researchers:**

- If you have specific questions or need expert insights, consider reaching out to researchers, educators, or professionals in the field of AI in education. They may provide valuable information and guidance.

## **Selection Criteria:**

- Getting feedback from teachers and students. Ask teachers and students what features are important in an AI-driven student engagement platform. This will help to choose a platform that meets the needs of school.
- Reading reviews and comparing products. There are a number of websites where we can read reviews of AI-driven student engagement platforms. Comparing different platforms to find the one that is the best fit the needs.
- Educational Objectives: Clearly define the institution's educational objectives and goals. Consider how the platform can support these objectives, such as improving student retention, increasing learning outcomes, or enhancing overall engagement.

## **Data Extraction**

- Student Information System (SIS): Contains student demographic data, enrolment information, and academic records, contains a wealth of data about students, such as their grades, attendance, and demographic information.
- Learning Management System (LMS): Stores course content, student interactions, and grades the systems track student engagement and performance in online courses.
- Engagement Tools: Collect data from engagement tools such as discussion forums, chat systems, and virtual classrooms.
- Library Databases: If applicable, access library databases for additional learning resources.
- Surveys and Feedback: Gather feedback from students and educators, can be used to collect data on student satisfaction, engagement, and learning styles.

## **Identification of gaps:**

- Assessing the extent to which AI-based learning content generation and learning pathway augmentation contribute to enhancing learner engagement.
- Investigating the influence of educational advancements and technological innovations on research related to AI-driven student assessment.
- Identifying the specific educational assessment domains that have witnessed improvements through AI integration.
- Analyzing the efficacy of AI in tailoring learning experiences to meet individual students' diverse needs, learning habits, and capabilities.
- Exploring the role of learner engagement as a dynamic process impacting learning outcomes in the realm of non-formal online education.
- Examining the potential applications of AI to enrich student engagement in the online learning environment.
- Evaluating the promise of AI in personalizing education and ultimately enhancing learning outcomes.

## **Critical Evaluation:**

- The proposed approach of generating narrative fragments automatically to enhance learner engagement necessitates empirical testing in real-world scenarios to verify its effectiveness.

- Addressing limitations in research related to AI-based student assessment, including small sample sizes and issues of generalizability, is crucial for advancing the field.
- Further research is required to explore the untapped potential of AI in enhancing various types of educational assessments.
- Investigating the effectiveness of AI in accommodating specific learning needs, habits, and abilities of students across diverse contexts should be a priority for future studies.
- Research should delve into the complex relationship between learner engagement and learning outcomes, particularly in different contexts of non-formal online education.
- Additional research is needed to assess the efficiency of various AI-based approaches in elevating student engagement within online learning environments.
- Exploring the potential of AI to customize education and improve learning outcomes across different educational settings warrants further investigation.

## **Conclusion :**

To sum up, AI-powered student engagement platforms are a game-changer in the world of education. Through personalized learning experiences, real-time feedback and accessibility, these platforms can dramatically improve learning outcomes and create an inclusive and engaging learning environment. They also provide the ability to accommodate both traditional and online learning and adjust to evolving technological advancements. These platforms will be crucial in shaping the future of education as AI develops since they will increase the effectiveness, efficiency, and personalization of learning to suit each student's individual needs.