

EduTutor AI

Team Members

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Abstract

EduTutor AI is an intelligent learning assistant designed to enhance digital education by providing personalized tutoring support to students. It leverages Artificial Intelligence (AI) and Natural Language Processing (NLP) to deliver interactive explanations, instant doubt-solving, adaptive assessments, and progress tracking. The project aims to make learning more engaging, accessible, and effective for students across different academic levels.

Objectives

1. To develop an AI-powered tutoring system that provides instant academic support.
2. To create a platform that offers personalized learning paths based on student performance.
3. To integrate interactive features such as quizzes, doubt clarification, and study recommendations.
4. To reduce the learning gap by offering 24/7 intelligent assistance.

Proposed System

- AI Tutor Module: Answers student queries and explains concepts.
- Adaptive Learning Module: Suggests study material and practice questions based on performance.
- Assessment & Feedback: Provides quizzes, evaluates answers, and gives feedback.
- Progress Tracking Dashboard: Helps students and teachers monitor academic growth.

Methodology

1. Requirement Analysis – Collecting user needs and curriculum requirements.
2. System Design – Designing AI modules, chatbot interface, and database structure.
3. Implementation – Developing using AI frameworks (e.g., Python, TensorFlow, NLP libraries).
4. Testing – Unit testing, integration testing, and user acceptance testing.
5. Deployment & Maintenance – Hosting as a web/mobile application.

Technologies Used

- Programming Languages: Python, JavaScript
- Frameworks & Libraries: TensorFlow / PyTorch, NLTK / spaCy
- Database: MySQL / MongoDB

- Platform: Web and Mobile App
- Tools: Flask / Django, React / Angular

Expected Outcomes

- A user-friendly AI tutoring system accessible on multiple platforms.
- Improved academic performance through personalized guidance.
- Reduced dependency on traditional tutoring.
- Enhanced student engagement with interactive learning.

Conclusion

EduTutor AI aims to transform digital education by providing an intelligent, personalized, and adaptive learning experience. The system ensures that students receive guidance anytime, anywhere, bridging the gap between traditional classroom learning and modern e-learning methods.