SmartPrep: Adaptive learning With LLM

ABSTRACT

AI-driven adaptive learning platform is designed to simplify complex subjects like Formal Languages and Automata Theory (FLAT), Design and Analysis of Algorithms (DAA), and quantitative Aptitude by acting as an intelligent, personalized tutor. Using Natural Language Processing (NLP), the system analyzes student responses to identify knowledge gaps and adapt instruction accordingly, offering structured explanations and real-time doubt resolution for more effective learning.Key feature of the platform is its interactive visualization module for FLAT, which helps students better understand complex topics like finite automa.In addition to subject-specific tutoring, the platform features an integrated article summarizer that helps learners quickly grasp key points from lengthy academic texts or reference materials. This supports efficient revision and deeper comprehension, especially when dealing with dense or unfamiliar content.To boost engagement and retention, the system includes assessments, progress tracking.By combining personalized learning, instant feedback, and content simplification tools like the article summarizer, the platform creates an intuitive and supportive educational experience that makes complex topics more accessible and enjoyable.

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