Generative Ai With IBM Cloud

Introduction

PROJECT TITLE

EduTutor AI: Personalized Learning with Generative AI and LMS Integration

TEAM MEMBERS

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EDUTUTOR_AI:

EduTutor_AI-Personalized Learning Powered by IBM Watsonx and Generative AI

🎯 Project Overview

EduTutor_AI is an innovative project that leverages the power of IBM Watsonx AI's Granite-13B Instruct-v2 model to provide

personalized learning experiences.By generating human-like responses to user prompts, this project aims to enhance education through adaptive and intelligent tutoring tailored to individual needs.

Features

🎯 1. PERSONALIZED LEARNING PATHS

AI tailors content based on student performance, learning pace, and preferences.

Adaptive learning algorithms recommend specific modules, resources, or exercises.

🧠 2. GENERATIVE AI-POWERED CONTENT CREATION

Auto-generates quizzes, flashcards, explanations, and summaries.

Converts lecture notes or textbook content into interactive formats (e.g., dialogues, infographics, games).Multimodal support: text, voice, images, and video generation.

🔁 3. LMS Integration

Seamless integration with platforms like Moodle, Canvas, Blackboard, or Google Classroom.

Single Sign-On (SSO) and API support for secure user authentication.

💬 4. AI Tutoring and Chat Support

Supports multiple languages and learning styles.

Context-aware, so responses align with the student's curriculum or syllabus.

📊 5. Real-Time Analytics & Dashboards

Learning progress tracking for students, teachers, and admins.

Engagement metrics: time spent, quiz performance, course completion.

📚 6. Curriculum Mapping & Standards AlignmentHelps

educators create or adapt content aligned with institutional goals.

🔓 7. DATA PRIVACY & SECURITY

Role-based access control for students, teachers, and administrators.

Secure cloud infrastructure with encryption and audit trails.

🤝 8. TEACHER SUPPORT TOOLS

AI-assisted grading and feedback suggestions.

🌍 9. MULTILINGUAL & ACCESSIBILITY FEATURES

Translation and text-to-speech support for diverse learners.

⚙️ 10. CUSTOMIZATION & EXTENSIBILITY

Plugin system to add features like gamification, peer review, or external assessments.

RESTful APIs and LTI integration for scalability.

🛠️ Tools & Technologies

IBM Cloud Pak for Data: Infrastructure for managing and deploying AI models. IBM Watsonx.ai: Platform for building and scaling AI solutions. IBM Granite-13B Instruct-v2 Model: Advanced generative AI model for creating human-like responses. Python: Core programming language for development. Jupyter Notebook / IBM Watson Studio: Environment for model development and experimentation. FeaturesGenerates personalized educational content based on user prompts.Utilizes state-of-the-art generative AI for natural and engaging responses.Scalable and deployable on IBM Cloud for real-world applications.

Sample Prompt:

Explain the concept of ai

Sample Output:

driven decision making and its applications in various industries

📋How to run the Notebook
Open IBM Watsonx.ai.platform.

Upload and open EduTutor_AI_Notebook.ipynb. Run the cells to generate AI responses for your educational prompts.