■ EduTutor AI - Documentation

Overview

This project is an AI-powered educational assistant built using Gradio and Hugging Face Transformers. It provides two main features: 1. Concept Explanation → Explains academic/technical concepts with examples. 2. Quiz Generator → Creates quiz questions (MCQs, True/False, Short Answer) with correct answers. The app uses the IBM Granite 3.2–2B Instruct model for natural language understanding and response generation.

Installation

Run the following command to install dependencies (only needed once in Google Colab or local setup): pip install gradio transformers torch

Code Structure

1. Import Libraries → gradio, torch, transformers. 2. Model & Tokenizer Setup → Loads IBM Granite 3.2-2B Instruct model. 3. Response Generation Function → Generates AI responses. 4. Feature Functions → Concept explanation & Quiz generator. 5. Gradio UI → User interface with two tabs. 6. Launch → Runs the app with a shareable link.

Features

- Concept Explanation: Explains a given concept in detail with examples. - Quiz Generator: Creates 5 quiz questions with answers on a given topic.

Usage

1. Run the code. 2. Enter a concept or topic in the respective tab. 3. View explanation or generated quiz questions with answers.

Future Improvements

- Add Markdown formatting for better readability. - Add download option for quizzes in PDF/Docx. - Support voice input & output with Gradio.