**Project Title:** EduBridge: Intelligent Learning Platform for Inclusive Quality Education

**Team Name:** ECE DAZZLERS

**Abstract:** EduBridge is a machine learning-powered web application that aims to democratize access to quality education through adaptive learning, performance analytics, and inclusive resources. The platform uses AI models for personalized content delivery, recommends study materials, and evaluates student progress. It ensures that learners from different backgrounds, including underprivileged and special needs students, get equitable learning opportunities via accessible content.

**Problem Statement:** Quality education remains inaccessible to many due to socioeconomic disparities, lack of infrastructure, and limited access to personalized learning tools. The challenge is to develop a smart, scalable solution to provide inclusive and equitable learning experiences for all.

**Existing System:**

* Traditional e-learning platforms with limited personalization.
* Lack of multilingual and accessibility support.
* Generic video lectures without adaptive feedback.

**Proposed System:** EduBridge will provide:

* ML-based personalized learning paths.
* Real-time feedback using performance analytics.
* Multilingual and accessibility features (voice-to-text, text-to-speech).
* Integration of Gemini APIs for smart content generation.

**Software Requirements:**

* Google Colab (Python, ML model training)
* Streamlit / Flask (for basic frontend integration)
* HTML, CSS (frontend)
* Gemini API (for smart summaries & explanations)
* Firebase / Firestore (for user data)

**Frontend Code Snippet (Streamlit):**

import streamlit as st

import pandas as pd

st.title("EduBridge - Smart Learning Dashboard")

name = st.text\_input("Enter your name")

subject = st.selectbox("Choose Subject", ["Math", "Science", "English"])

if st.button("Get Learning Plan"):

st.success(f"Hello {name}, your personalized {subject} learning plan is ready!")

**Advantages:**

* Personalized, data-driven learning experience
* Inclusive of multiple languages and special needs
* Cloud-based, scalable solution
* Easy integration with schools and NGOs

**Applications:**

* Remote learning in rural areas
* Special education assistance
* NGO-driven student training programs
* Government learning initiatives

**Conclusion:** EduBridge bridges the gap between students and quality education by leveraging machine learning and accessible tech. It provides personalized, equitable, and scalable learning solutions aligned with SDG 4: Quality Education.

**Future Scope:**

* Add support for AR/VR-based learning modules
* Enhanced NLP for doubt-solving
* Offline mode for rural deployments
* Collaboration with educational institutions globally

**References:**

* UNESCO SDG 4 Report
* Google Gemini API documentation
* Streamlit and Google Colab official guides

**Literature Survey:**

1. "AI in Education: A Review" - International Journal of Educational Technology, 2023.
2. "Adaptive Learning Using Machine Learning" - IEEE Xplore, 2022.
3. "Accessibility and Inclusion in Online Education" - Springer, 2021.

**Block Diagram:** [Will be created in PPT]

1. User Inputs → 2. ML Model in Colab → 3. Personalized Plan → 4. Feedback Loop → 5. Adaptive Recommendation

**MVP (Minimum Viable Product):**

* Input: Student details, subject preference
* Output: Personalized learning path & progress tracker
* Deployed using Streamlit + Google Colab backend

**Source Code:** GitHub link: [To be added in PPT]

**Evaluation Parameters Ready:**

1. Well-structured PPT (will be edited)
2. MVP with basic demo (ready in Streamlit)
3. 3-minute video script & MVP snapshot
4. GitHub with code & documentation