AI Powered Sustainability Insight Platform

Name - Adarsh Kumar
Collage - Babu Banarsi Das University , Lucknow

SDG Alignment -

1. SDG 7 - Affordable and Clean Energy.
2. SDG 11 - Sustainable Cities and Communities.
3. SDG 13 - Clean Water and Sanitation.

Problem Statement -

Individuals and communities often lack awareness about how their daily resource usage—such as electricity, water, and transportation—affects sustainability. There is no simple, accessible system that provides personalized insights and recommendations to help users make environmentally responsible decisions.

AI Solution Overview -

The project is an AI-powered web platform that analyzes user-provided consumption data related to:
1. Electricity usage.
2. Water usage.
3. Transportation habits.

Based on this input, the AI generates sustainability insights and actionable recommendations to help users reduce resource wastage and adopt eco-friendly practices.
The system acts as a decision-support tool, not an automated control system.

Target Users -

1. Students and Individuals
2. Households
3. Educational institutions
4. Urban residents interested in Sustainability

Reaasonable AI Considerrations -

1. No personal or sensitive data is stored.
2. AI outputs are advisory, not mandatory.
3. Transparent recommendations based on user input.
4. Promotes ethical and responsible use of AI for sustainability awareness.

Expected Impact -

1. Increased awareness of sustainable consumption.
2. Behavioral change towards resource conservation.
3. Reduced energy and water wastage.
4. Contribution to climate-friendly habits at individual level.

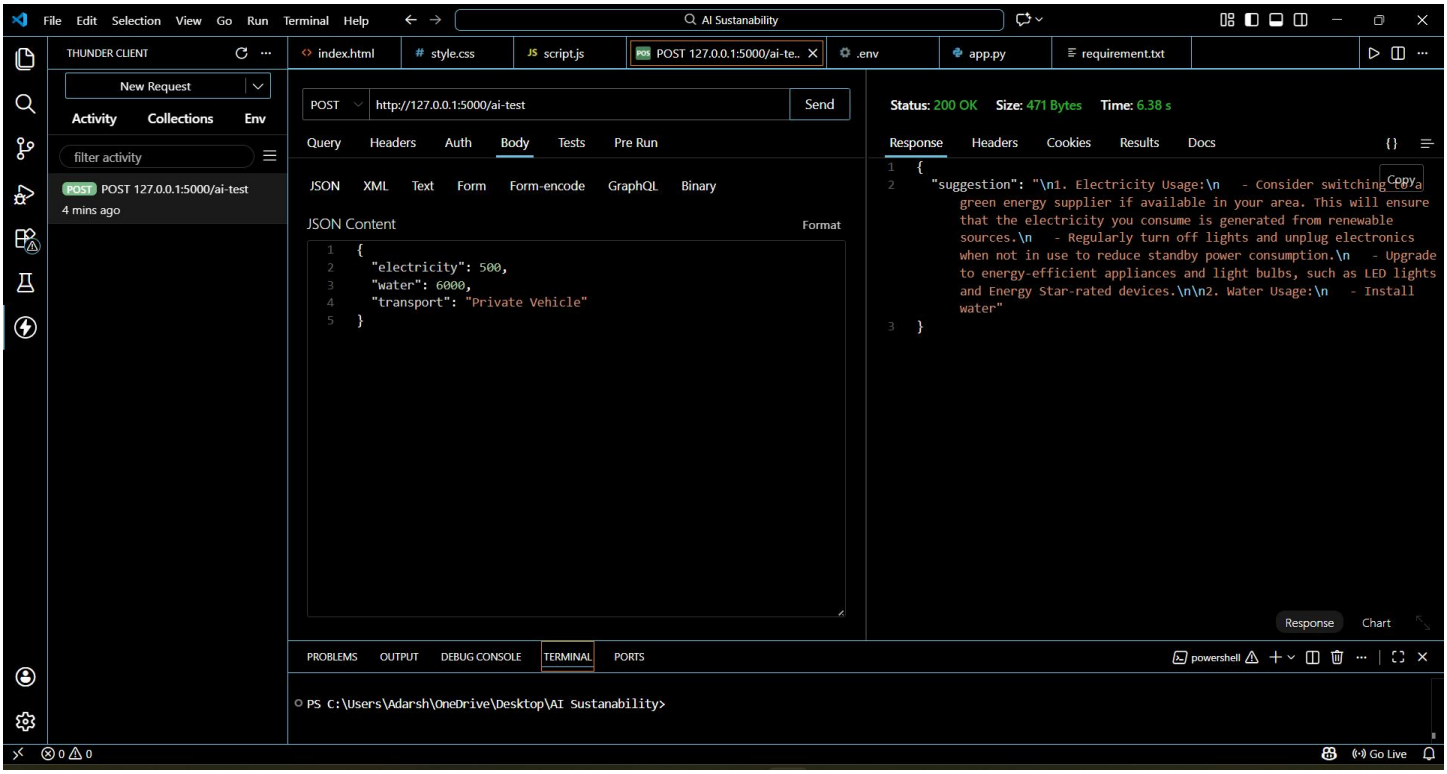
Demo-

How AI is Used -

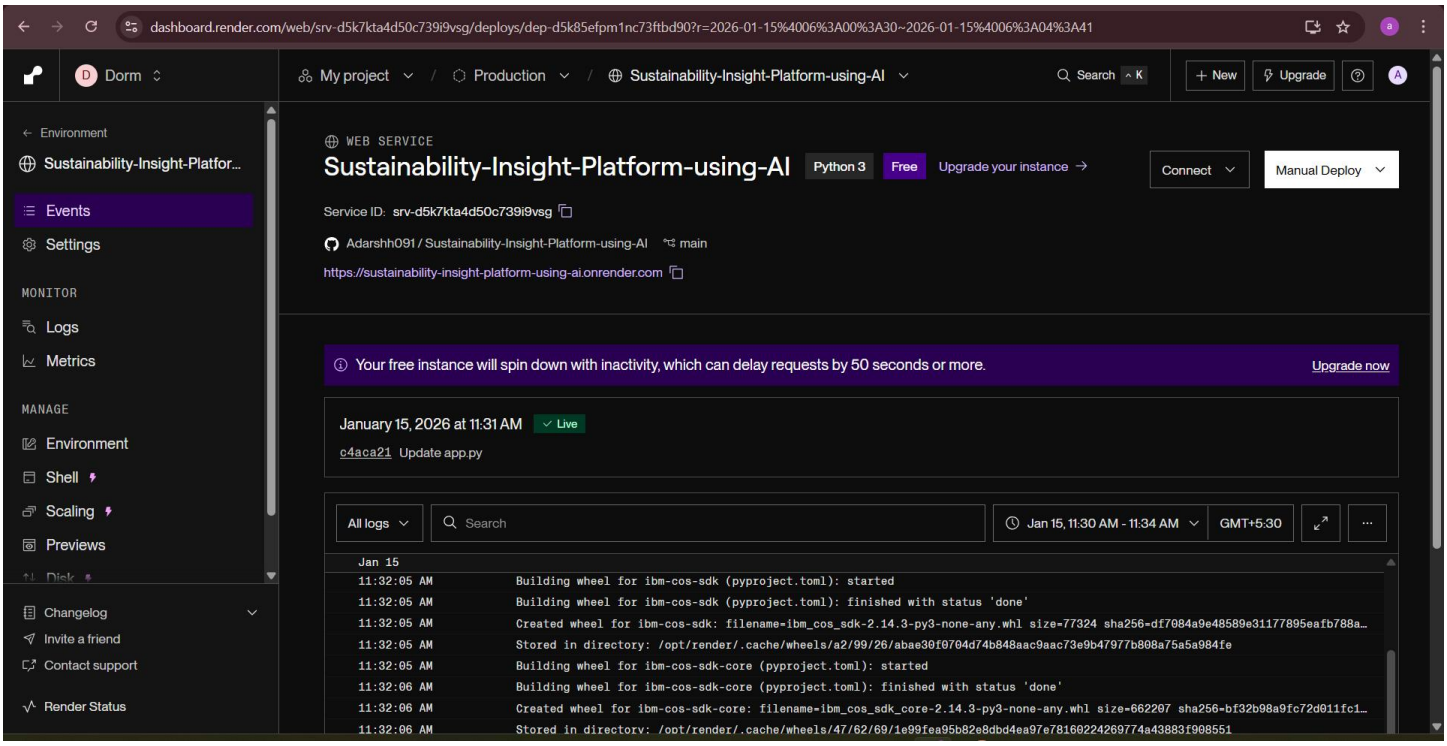
1. User enters consumption-related inputs (electricity, water, transport).
2. Backend processes the data.
3. AI model analyzes usage patterns.
4. AI generates sustainability suggestions.
5. Results are shown on a web interface.

Prototype Evidence -

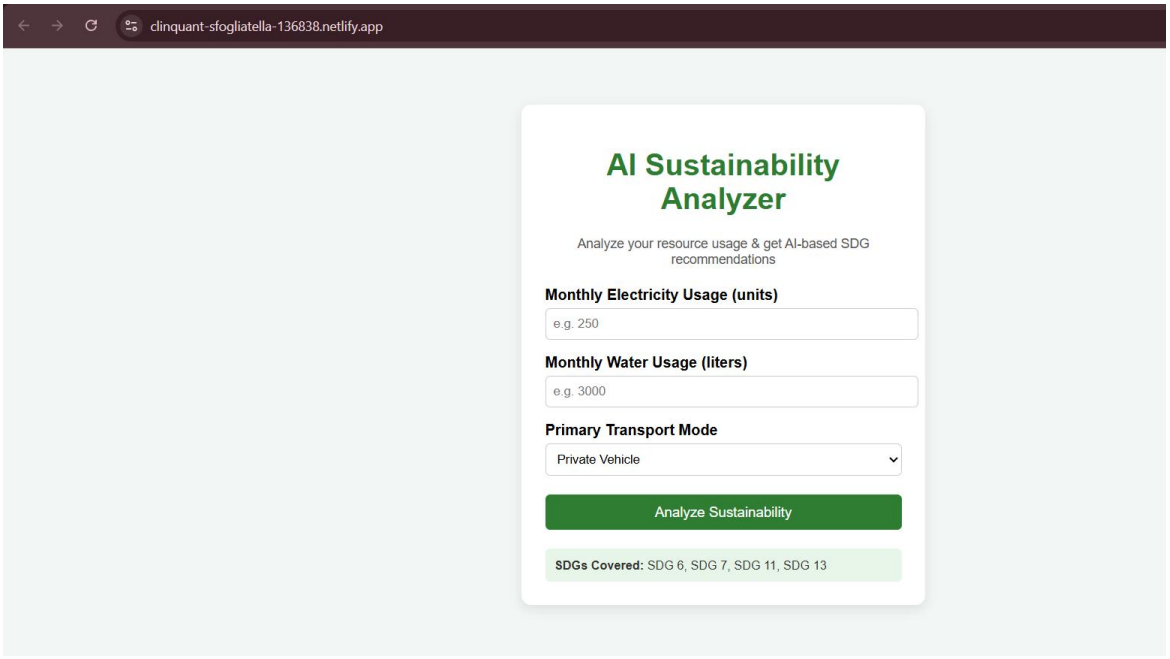
Deployed Backend Watsonx API (Render) - https://sustainability-insight-platform-using-ai.onrender.com
Backend Working with API in Thunder Client -

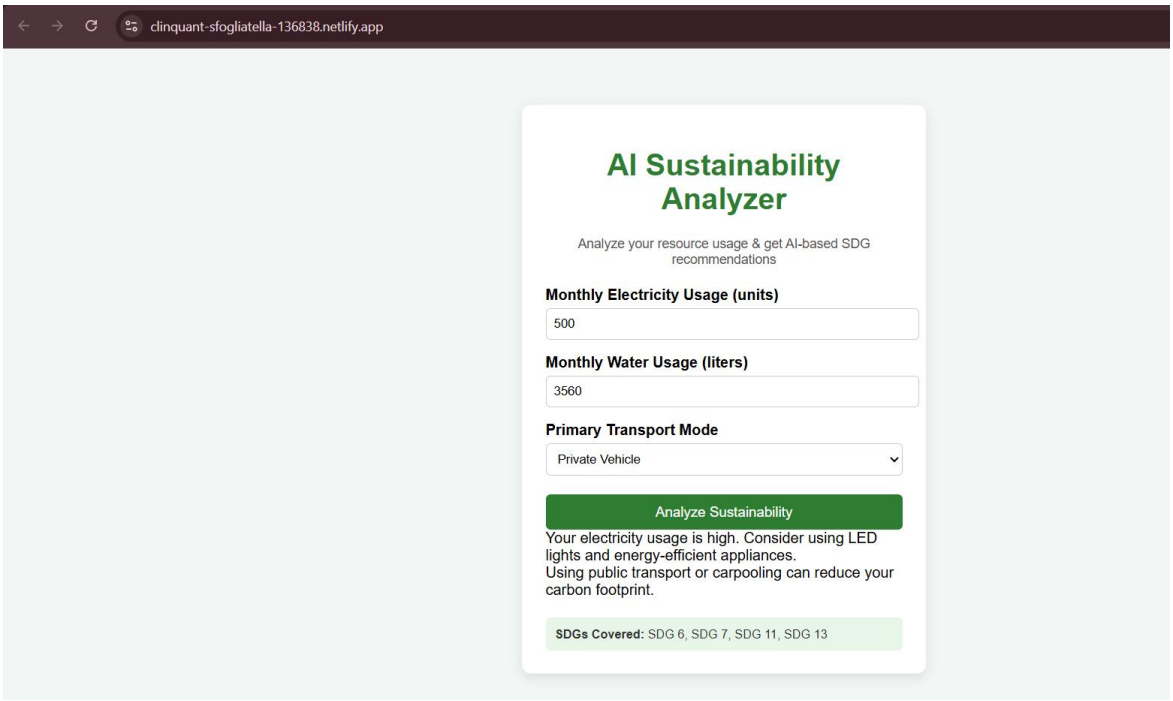


Render Dashboard



Deployed Frontend using netlify - https://clinquant-sfogliatella-136838.netlify.app/





Impact Statement -

What changes if this solution is implemented?

Users become more conscious of their daily consumption habits and receive AI-driven guidance to improve sustainability without needing technical knowledge.

Who benefits and how?
Individuals: Understand and improve personal sustainability.
Communities: Reduced overall resource wastage.
Environment: Lower emissions and better resource management.