## ClimateConnect: An Interactive AI-Powered Platform for Climate Awareness, Industry Accountability, and Action

### Problem Statement:

Climate changeremains one of the most pressing global challenges, yet public awareness and engagement in mitigation and adaptation efforts are limited. Existing platforms provide fragmented information, lack real-time climate data, and fail to encourage interactive discussions. Additionally, industries—one of the largest contributors to carbon emissions—often lack transparency in their environmental impact, making it difficult for individuals and organizations to hold them accountable. As a result, both individuals and industries remain uninformed about the severity of climate change and the practical actions they can take to combat it.

### Solution Overview:

**ClimateConnect** is an **AI-powered educational and social platform** designed to:  
1. **Educate** users and industries on climate change through AI-driven learning modules.  
2. **Provide Real-Time Climate Data** via APIs on:

Carbon emissions

Deforestation rates

Extreme weather patterns

**3. Monitor Industry Emissions** with:

A **real-time emissions dashboard** tracking various sectors (energy, transportation, manufacturing, etc.).

A **corporate sustainability index** ranking industries based on eco-friendly efforts and compliance.

AI-powered **predictive analytics** for environmental impact forecasts and green policy recommendations.

**4.Enable Interactive Engagement** through:

A **Twitter-like discussion forum** where users and experts share insights and solutions.

A **corporate pledge & ranking system** to track companies’ climate commitments.

**5.AI Chatbot for Climate Assistance**

Provides instant, reliable answers to climate-related querie.

Analyzes corporate sustainability reports for transparency.

### Expected Impact:

* **For Individuals:** Increased awareness, education, and participation in climate action.
* **For Industries:** Encourages transparency, accountability, and sustainable business practices.
* **For Policymakers & Activists:** Data-driven insights for decision-making and advocacy.

### Technologies Used:

**Frontend:**

* React.js (for an interactive web app)
* Bootstrap CSS (for styling)

**Backend**

* MySQL
* Java Spring Boot
* Nodejs

**Climate & Industry Data Integration**

* APIs for real-time climate & industry emissions tracking:
* Climate TRACE API (tracks emissions from industries)
* NASA Earth data API (for global climate statistics)
* NOAA Climate API (for temperature and weather trends)
* CDP (Carbon Disclosure Project) API (for corporate sustainability reports)

**AI & Chatbot**

* NLP Model:
* OpenAI’s GPT4 or fine-tuned LLM for answering climate-related queries
* Rasa (for a self-hosted chatbot with conversational AI)
* Lang Chain (for integrating AI responses into the app)