



ESG Assistant





Team

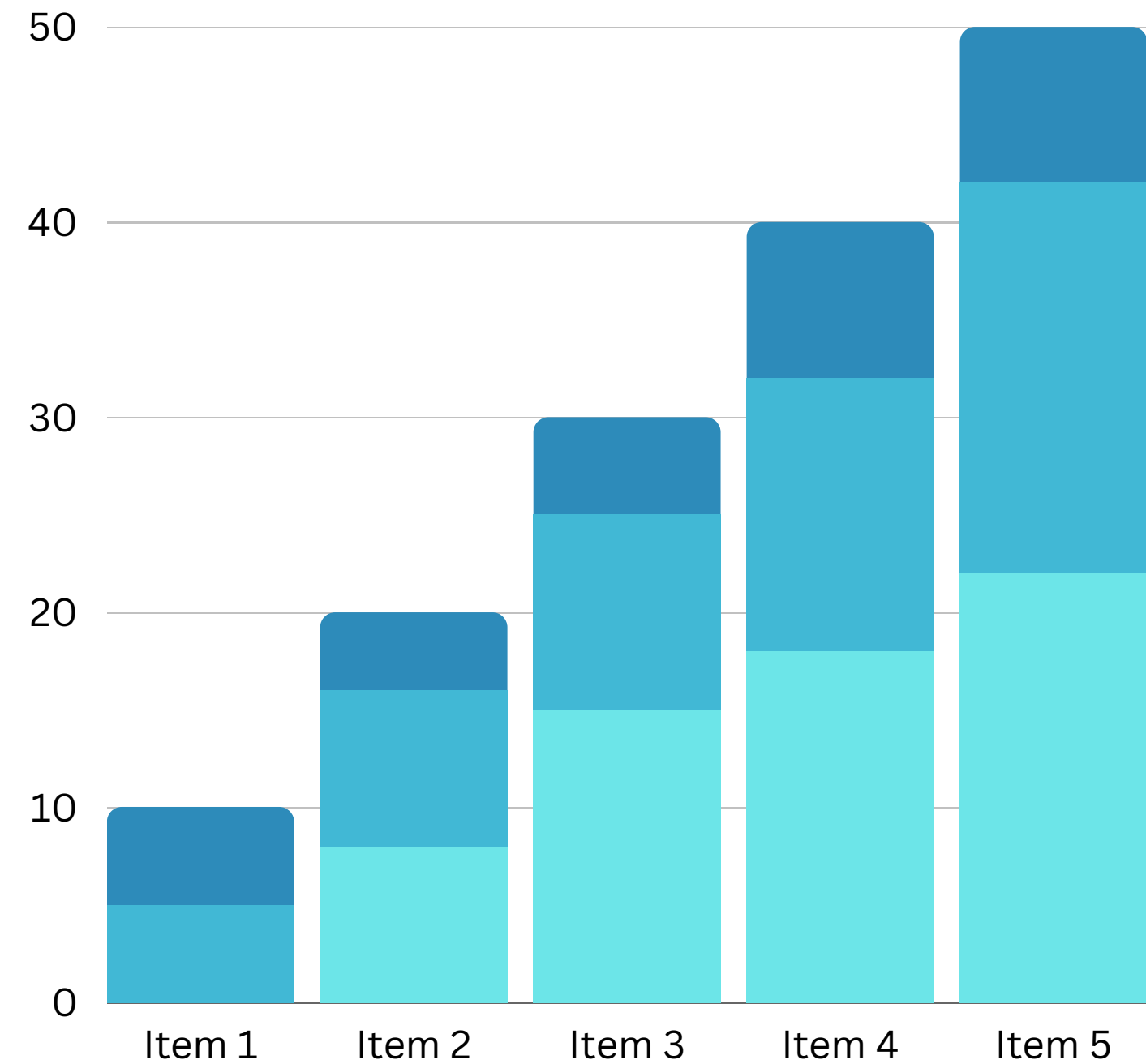
Name - Sakshi Satish Agrawal
Branch - Computer Science

Name - Khyati Singh
**Branch - Electronics and
TeleCommunication**



About

The Technical ESG Assistant, powered by Python, analyzes 25 of 47 ESG metrics, offering actionable recommendations to improve sustainability. It features a chatbot for interactive ESG discussions.





Tech Stack



PYTHON

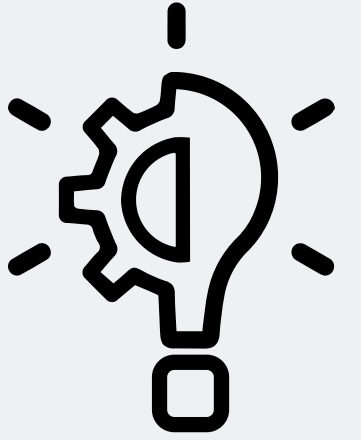
libraries - streamlit, pyTorch,
Tensor Flow



OPEN SOURCE MODEL

Hugging Face, Language
Model - LLAMA(Meta),
Microsoft MPNET

SOLUTION



We have successfully implemented a comprehensive solution for ESG analysis, leveraging datasets from four major companies' ESG reports. Our approach involves a finely tuned ESG score prediction model, specifically trained on ESG report data, to accurately assess and determine the ESG scores of these companies. Furthermore, we have incorporated an feedback mechanism into our system, recognising that simply presenting raw data is only a partial solution. This feedback component generates insightf



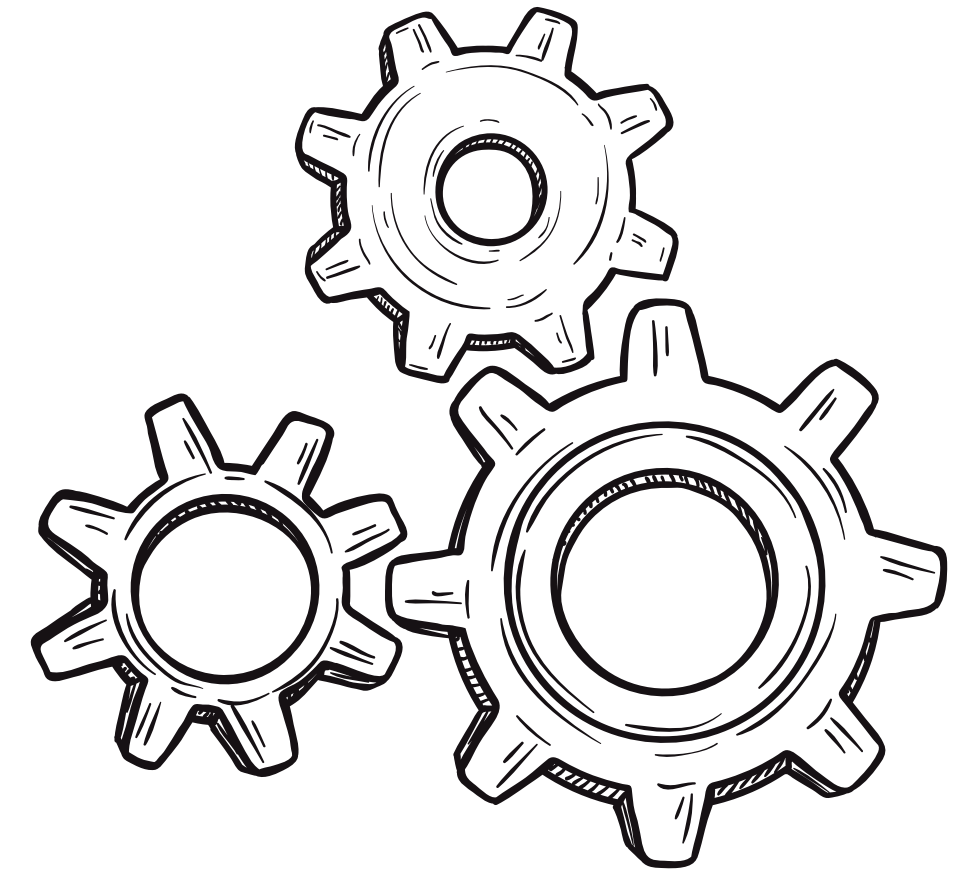
Brief

01 Python-Powered Analytics

The assistant is built using Python. Python's data analysis and machine learning capabilities enable the assistant to process large datasets, perform sentiment analysis, and generate valuable insights.

02 Recommendation Engine

The heart of the assistant lies in its ability to provide actionable recommendations for improving your company's ESG score. Based on the analysis of your current ESG metrics, it identifies areas where enhancements can be made to boost your ESG rating.





Brief

03 Interactive Chatbot

Interactive chatbot that allows users to ask questions and seek information related to ESG scores, sustainability practices, and more. The chatbot utilizes natural language understanding to provide clear and informative responses.

04 Sustainability Insights

Gain valuable insights into your company's sustainability practices. The assistant not only provides recommendations but also offers insights into why specific improvements can positively impact your ESG score.





Architecture



ESG Score Prediction leverages the Microsoft MPNET model, initially trained on a business corpus, and fine-tuned specifically for evaluating company ESG scores based on ESG reports.



For recommendations and chatbot functionality, we harness the power of Meta Llama, an open-source language model developed by Meta. We utilize Llama to grasp the nuances of business context and provide insights derived from the ESG scorecard we generate.

**Screenshots of our
working model ahead**

Chatbot

Ask a question:

In what parameters, did the company perform really well?

Submit

Chatbot Response:

You asked: 'In what parameters, did the company perform really well?' Chatbot response: Based on the provided ESG scorecard, here are the parameters where the company performed particularly well:

- Supply chain (environmental): The company scored high with an Environmental score of 0.136. This indicates that they have strong environmental management practices in place within their supply chain, leading to lower greenhouse gas emissions and better resource efficiency.
- Landscape transformation: With an Improvement score of 0.176, it appears that the organization has taken meaningful action toward developing projects that minimize landscape degradation and promote sustainable land use practices.

In addition, some areas where the business received relatively good marks include:

Suggestions

Sure! Based on the ESG score provided, here are five potential areas where the company could improve its performance:

- **Strategy implementation:** Focus on developing and implementing a comprehensive sustainability strategy that aligns with global best practices and industry standards.
- **Physical impacts:** Conduct thorough assessments of the direct and indirect environmental impacts associated with their operations and supply chain, and prioritize initiatives to mitigate or eliminate negative effects.
- **Corporate governance:** Ensure that board-level oversight and accountability mechanisms are in place to address ESG issues proactively, and engage stakeholders through transparent reporting processes.
- **Supply chain management:** Develop an action plan to address any gaps identified under "Supply Chain (Economic / Governance)" by working closely with suppliers to implement responsible sourcing policies and promote ethical labor practices.
- **Risk management and internal controls:** Enhance existing risk management frameworks to include specific KPIs related to ESG risks; strengthen internal control systems to ensure consistent monitoring and mitigation of such risks across all levels of the organization.

Scores

	ESG Parameter	Score
0	Strategy Implementation	0.9650
1	Physical Impacts	0.5920
2	Corporate Governance	0.5070
3	Supply Chain (Economic / Governance)	0.4910
4	Risk Management and Internal Control	0.4330
5	Natural Resources	0.3380
6	Soil and Groundwater Impact	0.3360
7	Greenhouse Gas Emissions	0.2870
8	Emergencies (Environmental)	0.2780
9	Freedom of Association and Right to Organise	0.2600
10	Forced Labour	0.2450

Git link -

<https://github.com/kay2730/ES>

G-Hack.git

THANK YOU