Building an Interactive Dashboard for Net Zero Pathways

Overview

The goal of this project was to build an interactive dashboard for CO2 AI product, which helps companies measure, track, and reduce their environmental footprints at scale. The dashboard was designed to calculate Net Zero Pathways to achieve Net Zero Emissions (NZE) and provide real-time updates and results. The technology stack used in the project included Python, Pandas, Dash, Plotly, AWS S3, and AWS EC2.

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Country: USA

Industry: Private Sector

Customer Size: 500 - 1000

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Problem Statement

Reducing carbon footprint is an urgent challenge faced by businesses around the world. However, companies often struggle to measure and track their environmental impact at scale, especially across their supply chains. The existing methods of carbon reduction are theoretical and not impactful. Gamma's CO2 AI product addresses this problem by leveraging advanced analytics and technology to measure and reduce carbon footprints at scale.

Technical Solution

The solution was to build an interactive dashboard for CO2 AI product that could calculate net zero pathways to achieve net-zero emissions (NZE) in real-time. To achieve this, the team at Red Buffer used Python, Pandas, Dash, Plotly, AWS S3, and AWS EC2 to build the dashboard that used real-time data to provide updated results to users. The dashboard used Dash, which is built on top of Plotly and provides an easy-to-use interface for building web-based dashboards.

The dashboard was designed to enable large and complex companies to manage their environmental footprints at scale. With more than 130 million tons of CO2e under management, CO2 AI's platform helps companies rigorously measure, track and reduce their environmental footprint. The team at Red Buffer worked closely to understand the client's requirements and to ensure that the dashboard met their needs.

The team at Red Buffer used Pandas to clean and leverage the data before feeding it into the dashboard. The data was stored on AWS S3, which allowed for easy access and management of the data. The team used AWS EC2 to host the dashboard, which ensured that the dashboard was always available and scalable to meet the client's needs.

The dashboard provided real-time updates on carbon emissions, and users could use the dashboard to calculate their net zero pathways. The team at Red Buffer used Plotly to create the charts and visualizations that were used in the dashboard. Plotly allowed the team to create dynamic charts that changed in real-time as the data was updated.

Results

The interactive dashboard developed by Red Buffer has helped CO2 AI product to provide actionable insights and enable decision-makers to sustain the world by reducing their environmental footprints. The dashboard provides real-time updates and results for calculating Net Zero Pathways to achieve NZE. The data used in the dashboard is stored on AWS S3 and processed on AWS EC2 instances, ensuring high scalability and availability. The interactive and user-friendly nature of the dashboard has made it easy for businesses to measure, track and reduce their carbon footprints at scale. The project has been a success and is contributing to the fight against climate change.

Technologies	Domain
Python, Pandas, Dash, Flask, Plotly, AWS S3, AWS EC2	Visualization, Go Green, Industrial Optimization

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