Changing Lives Globally

What is the Problem?

At Coi ChangingLives Corp, we understand the profound impact that extreme weather events can have on human lives. According to a study published in The Lancet Planetary Health, more than 5 million extra deaths a year can be attributed to abnormal hot and cold temperatures. This study, which analyzed mortality and temperature data across the world from 2000 to 2019, found that 9.43% of global deaths could be attributed to cold and hot temperatures.

Our Solution!

To address this, we have developed an AI-powered Climate Intelligence Platform that provides highly accurate, timely, and personalized predictions of extreme weather events. Our platform leverages advanced data science and machine learning techniques to analyze a vast array of climate data, generating detailed forecasts that go beyond traditional weather predictions.

Our solution offers:

Precision Forecasting: We deliver highly accurate predictions of extreme weather events, enabling effective planning and risk management.	**Real-Time Alerts:** Our users receive real-time alerts about impending extreme weather events, providing ample time for necessary precautions.	**Personalized Insights:** We provide personalized insights based on specific locations and needs, catering to a wide range of industries.	**User-Friendly Interface:** Our platform is intuitive and easy to use, with clear visualizations and explanations of forecast data.	**Integration Capabilities:** Our platform can be seamlessly integrated with existing business systems, enabling operational planning and decision-making processes.

By using our Climate Intelligence Platform, businesses and individuals can turn the uncertainty of extreme weather events into a manageable risk, making informed decisions that protect their operations, reduce costs, and ensure their safety and well-being.

Market Research Analysis

Several companies are engaged in offering weather data and forecasting services, primarily catering to the **Energy sector:**

Meteomatics: They provide a range of services, including weather data, forecasting, and various solutions like weather APIs, weather maps, as well as energy forecasts for solar, wind, and water.

Ubimet: With a revenue of $6.3M, it employs numerous methods for collecting weather data, including ground-based sensors, radar, satellite imagery, and weather models. They operate a network of over 5000 global weather stations and provide accurate weather forecasts.

Windy.com: Earning a revenue of $5.1M, Windy.com delivers worldwide weather forecasts and maps, alongside weather data products for the energy industry such as wind power and solar radiation forecasts.

WattsUpWithThat: A $2.1M company focusing on offering accurate and transparent weather data, including weather forecasts and wind and solar power forecasts, as well as climate data for the energy industry.

How Are We Different?

We offer:

Grid Resilience and Demand Response: Utilizes machine learning algorithms to predict extreme weather events that can impact the power grid and demand patterns. ***Allowing development of intelligent algorithms that assist in grid resilience planning*** and ***enable demand response strategies*** to efficiently manage energy supply during peak demand or grid disruptions.

Offering this service gives our company several competitive advantages:

- **Predictive and Proactive Approach:** While our competitors mainly focus on collecting weather data and providing forecasts, our company goes a step further. ***Our company leverages machine learning to predict extreme weather events*** and their ***potential impact on the power grid.*** This proactive approach allows clients to prepare in advance for such scenarios, ensuring smooth operations and potentially reducing costs associated with unexpected disruptions.
    - **Reliability of Energy Supply:** *By predicting extreme weather events and their impact on the power grid, these services can help ensure the continuity of power supply.*

How Are We Different?

We offer:

Renewable Energy Optimization: Machine learning algorithms are used to optimize renewable energy production and integration. Incorporating real-time weather data, energy market trends, and infrastructure constraints to maximize energy generation, storage, and distribution efficiency while minimizing costs and environmental impact.

Offering this service gives our company several competitive advantages:

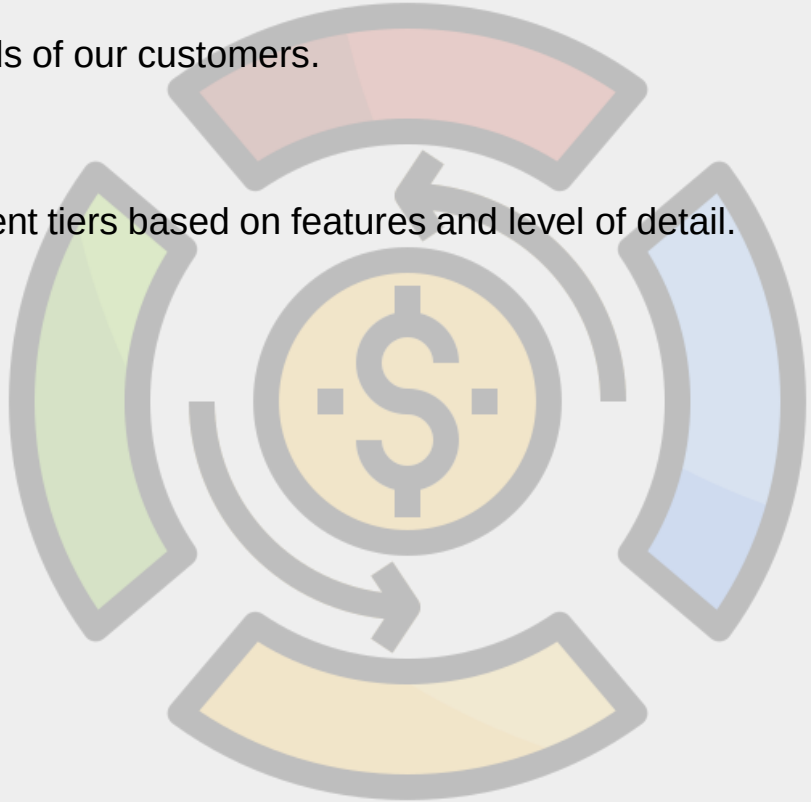
- **Cost and Environmental Impact Reduction:** By focusing on ***optimizing renewable energy usage*** and minimizing waste, your services could potentially ***help clients reduce costs and environmental impact***. This added value might be particularly appealing to companies looking to ***improve their sustainability and profitability.***
    - **Environmental Protection**: *Optimizing renewable energy production reduces reliance on fossil fuels, thereby lowering greenhouse gas emissions. This aids in mitigating climate change, which in turn protects people's health and safety by reducing the risk of extreme weather events, air pollution, and other climate-related threats.*

Revenue Stream

Our revenue model is designed to cater to the diverse needs of our customers.

We offer:

- Subscription-based access to our platform with different tiers based on features and level of detail.
- Pay-per-use options for occasional users.



Tools Used?

Google Cloud Platform (GCP)

- Google Cloud Platform (GCP) offers cloud computing services that utilize Google's internal infrastructure, ensuring the strength, dependability, and protection of your project.

Vertex AI

- Vertex Ai is a streamlined machine learning platform with unified UI for easy model development, deployment, and optimization.

AutoML

- Google's AutoML simplifies model creation for your business needs, even without expertise in machine learning or coding. It automates training for faster, accurate predictions and iterative improvements.

Palm 2

- Palm 2 is a powerful tool for managing and analyzing large datasets. It's designed to handle the scale and complexity of big data, making it easier to extract insights and make data-driven decisions.

Jupyter Notebooks

- Jupyter Notebooks is an open-source web app for sharing documents with live code, visualizations, and narrative text, ideal for data tasks and ML.

Notion

- Notion is an all-in-one workspace for writing, planning, collaborating, and organizing, keeping your project streamlined, efficient, and well-documented.

By leveraging Google’s Cloud Tech advanced AI and ML tools, we efficiently manage projects, prototype, iterate, improve models, and deliver innovative solutions.

Roadmap

Epic 1: Enhance Prediction Capabilities

- Feature 1.1: Predict Additional Weather Parameters (Completion Date: +2 weeks)
  - Milestone 1.1.1: Extend model to predict humidity (Completion Date: +1 week)
  - Milestone 1.1.2: Extend model to predict wind speed and direction (Completion Date: +2 weeks)
- Feature 1.2: Increase Prediction Horizon (Completion Date: +4 weeks)
  - Milestone 1.2.1: Extend model to predict weather parameters (97% accuracy) for the next 3 days (Completion Date: +3 weeks)
  - Milestone 1.2.2: Extend model to predict weather parameters for the next 7 days (Completion Date: +4 weeks)
- Feature 1.3: Predict Atmospheric CO2 Levels (Completion Date: +6 weeks)
  - Milestone 1.3.1: Collect and integrate CO2 data (Completion Date: +5 weeks)
  - Milestone 1.3.2: Develop and test CO2 prediction model (Completion Date: +6 weeks)
- Feature 1.4: Predict Solar and Lunar Phases, Sea Level Pressure, Solar Energy (In Progress: +10 weeks)
  - Milestone 1.4.1: Collect and integrate relevant data (Completion Date: +8 weeks)
  - Milestone 1.4.2: Develop and test prediction models (Completion Date: +10 weeks)
- Feature 1.5: Develop Custom Weather Chatbot (In Progress: +12 weeks)
  - Milestone 1.5.1: Design chatbot interaction flow (Completion Date: +11 weeks)
  - Milestone 1.5.2: Implement and test chatbot (Completion Date: +12 weeks)

Epic 2: Improve Model Accuracy

- Feature 2.1: Model Tuning and Optimization (Completion Date: +14 weeks)
  - Milestone 2.1.1: Implement hyperparameter tuning (Completion Date: +13 weeks)
  - Milestone 2.1.2: Evaluate and implement advanced ML techniques (Completion Date: +14 weeks)

Roadmap Continued

Epic 3: Develop User Interface

- Feature 3.1: Develop Basic User Interface with Streamlit (In Progress: +15 weeks)
  - Milestone 3.1.1: Design UI mockups (Completion Date: +14.5 weeks)
  - Milestone 3.1.2: Implement UI with Streamlit (Completion Date: +15 weeks)
- Feature 3.2: Implement User Feedback Mechanism (Completion Date: +16 weeks)
  - Milestone 3.2.1: Design feedback form (Completion Date: +15.5 weeks)
  - Milestone 3.2.2: Implement feedback form in UI (Completion Date: +16 weeks)

Epic 4: Prepare for Launch

- Feature 4.1: Conduct User Testing (Completion Date: +17 weeks)
  - Milestone 4.1.1: Recruit beta testers (Completion Date: +16.5 weeks)
  - Milestone 4.1.2: Conduct beta testing and collect feedback (Completion Date: +17 weeks)
- Feature 4.2: Finalize Product for Launch (Completion Date: +18 weeks)
  - Milestone 4.2.1: Incorporate feedback and finalize product (Completion Date: +17.5 weeks)
  - Milestone 4.2.2: Prepare marketing and launch plan (Completion Date: +18 weeks)